# AMERICAN VOCATIONAL JOURNAL

VOLUME 23 • NO. 4 • APRIL, 1948

Chilocco Indian School's Sheep—Oklahoma

Courtesy U. S. Indian Service


- What About Research?
- Charts Tell the Story
- They Build a House


371.42
T 12m
v.3 #4
1948

# Simplify Teaching with SOUTH BEND LATHES

**TYPES and SIZES**
**SOUTH BEND LATHES**

•

**ENGINE and TOOLROOM LATHES**

9" Swing
3', 3½', 4', and 4½' Bed Lengths

10" Swing
3', 3½', 4', and 4½' Bed Lengths

13" Swing
4', 5', 6', and 7' Bed Lengths

14½" Swing
5', 6', 7', and 8' Bed Lengths

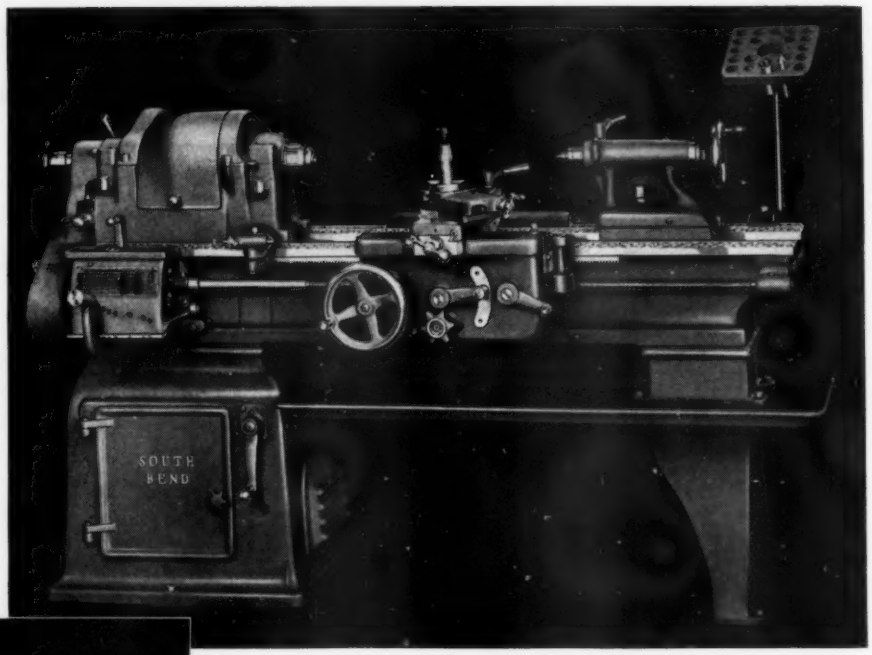
16" Swing
6', 7', 8', 10', and 12' Bed Lengths

•

**TURRET LATHES**

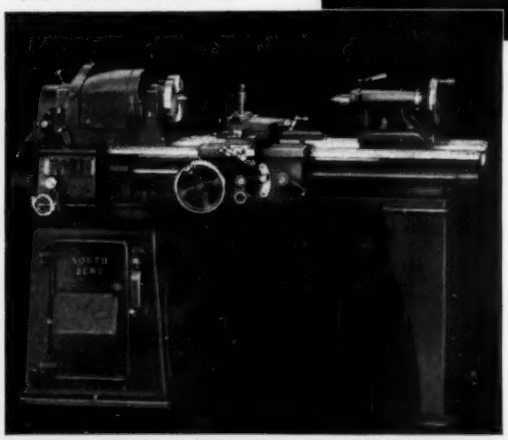
Series 900—9" Swing
½" Maximum Collet Capacity
3½' Bed Length

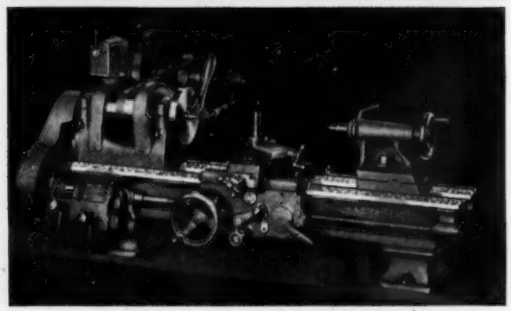
Series 1000—10" Swing
1" Maximum Collet Capacity
3½' Bed Length




16" x 6' SOUTH BEND TOOLROOM LATHE

13" x 5' SOUTH BEND
QUICK CHANGE GEAR LATHE





9" x 3' SOUTH BEND MODEL A BENCH LATHE

The outstanding records for performance and dependability that South Bend Precision Lathes have achieved under the critical demands of American industry recommend them for student training purposes in the school shop. These essential lathe qualities—performance and dependability—plus ease of control, simplicity of operation, unfailing precision, unusal versatility, and built-in safety features, make South Bend Precision Lathes the logical installation for those school shops where the quality and thoroughness of training are principal considerations. Certainly, too, it is to the students' advantage to learn in school to operate the lathes which they are most likely to use in industry. Write today for Catalog 100-D which illustrates and describes all South Bend Precision Lathes.

**TEACHING HELPS FOR SHOP CLASSES**

Manuals, sound films, wall charts, booklets, and other teaching and study helps on the operation and care of metal working lathes are available to shop instructors, supervisors, and trainees. Write today for free Bulletin No. 21 which illustrates and describes this valuable educational material!

## SOUTH BEND LATHE WORKS

465 EAST MADISON STREET, SOUTH BEND 22, INDIANA • *LATHE BUILDERS SINCE 1906*

# We want to see YOUR STUDENTS' ALUMINUM PROJECTS

## ...They must be in by June 20th!

HURRY! HURRY! HURRY! See that your students send in their aluminum projects and try for one of 54 cash prizes in the Scholastic Industrial Arts Awards Contest, sponsored by Scholastic Magazines and Aluminum Company of America. June 20th is the deadline, so the projects must be finished in ample time for shipment by express prepaid before that date. No shipment should be made until after May 15.

*Address all entries to:*

MUSEUM OF SCIENCE AND INDUSTRY
Jackson Park, Chicago 37, Illinois

**TO HELP YOU NEXT SEMESTER . . . GET THIS NEW CATALOG OF TEACHING AIDS**

A catalog of teaching aids including: Motion pictures telling the story of aluminum; its manufacture and fabrication; how to machine, form, join and finish it. Books on Alcoa Aluminum and its alloys; how to form, rivet, weld, braze, machine, cast and finish aluminum. Visual aids for science, chemistry and industrial arts classes. You will find a wealth of helpful material in this new catalog. Ask for the "Alcoa Library". Write ALUMINUM COMPANY OF AMERICA, 1772 Gulf Building, Pittsburgh 19, Pennsylvania.

### STUDENTS HAVE 54 CHANCES TO WIN

Identical awards listed below will be given for two classes of aluminum projects:

**WROUGHT ALUMINUM**—any project made of aluminum sheet, rod, tube, or bar in which aluminum is the major material of construction; hammered, overlaid, etched, stamped, sawed, spun, or other methods of handling.

**CAST ALUMINUM**—any project in which cast aluminum is the major material of construction. Projects must be finished for use. Examples: book ends, ash trays, nameplates, lamp bases, candlesticks, bracelets, smoking stands, lathe parts, drill press parts.

**GROUP I**—Junior High Schools. First Prize, $50; Second, $25; Third, $10; Six Honorable Mentions, $5 each.

**GROUP II**—Senior High Schools, for students receiving less than 10 hours per week. First Prize, $50; Second, $25; Third, $10; Six Honorable Mentions, $5 each.

**GROUP III**—Senior High Schools, Tech. Schools, and Vocational Schools, for students receiving 10 or more hours per week. First Prize, $50; Second, $25; Third, $10; Six Honorable Mentions, $5 each. Teachers: For rules, write to:

**SCHOLASTIC ARTS AWARDS, 220 East 42nd Street, New York 17, N. Y.**

**ALCOA** FIRST IN **ALUMINUM**

ALCOA ALUMINUM 1888 1948 60 YEARS OF SERVICE

# ANNOUNCEMENT

THE SCHOLASTIC CORPORATION ANNOUNCES WITH REGRET THAT IT HAS GIVEN NOTICE OF CANCELLATION OF ITS CONTRACT WITH THE AMERICAN VOCATIONAL ASSOCIATION FOR PUBLICATION OF THE AMERICAN VOCATIONAL JOURNAL. AFTER PUBLICATION OF THE APRIL, 1948, ISSUE THE SCHOLASTIC CORPORATION WILL CEASE TO BE RESPONSIBLE FOR PUBLICATION OF THE JOURNAL. A FULL AND COMPLETE STATEMENT OF THE REASONS COMPELLING THIS DECISION IS IN THE HANDS OF THE OFFICERS AND MEMBERS OF THE EXECUTIVE COMMITTEE OF THE AVA.

Don Layman

Publisher of the American Vocational Journal for the Scholastic Corporation, publishers of Scholastic Magazines for classroom use.

OFFICIAL PUBLICATION OF THE AMERICAN VOCATIONAL ASSN., INC.

# American Vocational Journal

April • 1948 • Volume 23 • Number 4


| | | |
|---|---|---|
| **Announcement** | | 4 |
| **AVA Officers** | | 6 |
| **Editorial** | by Paul Cressman | 6 |
| **The Wide Open Spaces** | by Will Frances Sanders | 7 |
| **Charts Tell the Story** | by K. Otto Logan | 9 |
| **They Build a House** | by George E. Kohrman | 10 |
| **Informal Methods** | by Mary Lyle and Manuela Quinones | 11 |
| **Letter From China** | | 12 |
| **FFA Buys Equipment** | by Glen C. Cook | 13 |
| **Here's What They Say** | by Arnold Zopf | 14 |
| **What About Research?** | by Thomas Diamond | 15 |
| **AVA Committee Reports** | | 18 |
| **Awards for the Winner** | by Ruby Corder | 19 |
| **Meet You at the Fountain** | by J. E. Morgan | 20 |
| **New Equipment** | | 22 |
| **Paging the Books** | | 24 |
| **Oregon FFA Buys Equipment** | | 25 |
| **Customer Relationships in a Beauty Salon** | by Mrs. Ann Steffens | 25 |
| **Projectors for the "Magic Lantern"** | by William J. Temple | 26 |
| **With the Associations** | | 29 |
| **Products and Services Guide** | | 28 |
| **Who's Who** | | 29 |
| **In Tribute** | | 29 |


**MANAGING EDITOR:** George H. Fern, 220 E. 42nd St., New York 17, N. Y.

**EDITOR-IN-CHIEF:** L. H. Dennis, 1010 Vermont Ave., Washington 5, D. C.

**CONTRIBUTING EDITORS**

AGRICULTURE, Glen C. Cook, M.S.C., East Lansing, Mich.; PART TIME, R. L. Welch, State Bd. Voc. and Adult Ed., Madison, Wis.; BUSINESS, M. A. Browning, State Bd. for Voc. Ed., Austin, Tex.; HOME ECONOMICS, Mary Gillespie, State College, State College, N. Mex.; INDUSTRIAL ARTS, John R. Ludington, U. of N. Carolina, Raleigh, N. C.; INDUSTRIAL, Thomas Diamond, U. of M., Ann Arbor, Mich.; VOCATIONAL GUIDANCE, C. E. Partch, Rutgers University, New Brunswick, N. J.; REHABILITATION, O. F. Wise, Court House, Birmingham, Ala.

**PUBLISHING SERVICES**

Furnished by Scholastic Magazines, 220 E. 42nd St., New York; DON LAYMAN, Publisher; GEORGE H. FERN, Mng. Editor; HARRIETT H. CARR, Editorial Asst.; RICHARD WHITEMAN, Advg. Mgr.; MARY JANE DUNTON, Art Editor.

EDUCATIONAL PRESS ASSOCIATION OF AMERICA

The American Vocational Journal is published monthly, September to June inclusive, by the American Vocational Association, Inc. Entered as second class matter January 29, 1945, at the post office at New York, N. Y., under the act of March 3, 1879. Contents are copyrighted by American Vocational Association, Inc. All members of the American Vocational Association, Inc., receive the Journal. Membership applications should be submitted through State Vocational Association secretary. Subscription prices for libraries and non-members $2.00 a year, single copies 25c. Executive offices at 1010 Vermont Avenue, Washington 5, D. C. Advertising, editorial and production headquarters are at 220 East 42nd Street, New York 17, N. Y. This is the official publication of the AVA.

*From*
**MACMILLAN**
60 Fifth Avenue
New York 11, N. Y.

## For Vocational Courses

### AIRCRAFT MECHANIC SERIES

*By Rollen H. Drake*

**Aircraft Woodwork** ..... $3.50
**Aircraft Sheet Metal** .... $5.50
**Aircraft Welding** ..... $4.00
**Aircraft Engines**
*To be ready in May.*
$5.90 *(prob.)*
**Aircraft Electrical Systems, Hydraulic Systems, and Instruments**
**Aircraft Engine Maintenance and Service**
**Aircraft Maintenance and Service**
*Preparing*

These texts provide all the instruction in theory, materials, tools and techniques needed to meet the CAA mechanics' license requirements. Very clearly written, up-to-date, fully illustrated and in line with actual practice, they are excellent for vocational courses. Shop projects in the construction and approved repair of all aircraft parts are included.

### THE BLUEPRINT LANGUAGE

*By H. C. Spencer and H. E. Grant*

Thoroughly explains every detail of blueprints, with abundant illustrations and problem sheets—all reproduced from actual drawings and blueprints contributed by over 100 leading industrial concerns. Especially good training in visualization is given through full, clear explanations of all views and methods of shape description used in technical drawings. $5.

**Illustrated Jig-Tooling Dictionary**
*By T. G. Thompson & R. A. Peterson.* $7.50
A unique reference containing 988 working drawings, with concise explanations, of the design, construction and use of all tooling equipment and procedures used in industry today.

**Principles of Radio for Operators**
*By Ralph Atherton.* $4
Very clear, simple explanations of the electrical fundamentals and operating principles of every basic part of radio, with demonstrations and nearly 500 illustrations.

**Introduction to Practical Radio**
*By D. J. Tucker.* $3
An unusually thorough basic text on all fundamentals, with full explanations of the necessary mathematics at points where it is used, and many practical problems.

**Shop Job Sheets in Radio**
*By R. N. Auble*
Book 1—Fundamentals . . . $1.90
Book 2—Service Problems . $1.90
Practical shop exercises in the electrical fundamentals and the construction of all basic parts.

**Aircraft Drafting**
*By H. H. Katz.* $5
Teaches the elements of technical drawing and the particular practices of aircraft drafting largely through hundreds of illustrations. Includes many aircraft production and engineering data.

**Aerodynamics**
*By L. R. Parkinson.* $2.50
A brief, clearly written text, requiring only high school algebra, on the fundamental formulas and their use.

**Practical Marine Electricity**
*By S. N. LeCount & H. S. Dusenbery.* $3.75
A complete course in the electrical principles, installation, operation, and maintenance of every piece of electrical equipment used on modern merchant ships.

**Machine Shop Operations**
*By L. E. King*
Lathe, Milling Machine Operations ($1.75 each); Shaper Operations ($1); Bench, Grinder Operations, *preparing.*
The technical data, necessary mathematics, and directions for performing each operation on each of the major machine tools.

# American Vocational Association, Inc.

**American Vocational Association, Inc., advances American Education by developing economic competence of youths and adults. The Association promotes the professional interests of persons engaged in vocational and industrial arts education. It encourages full-time and part-time programs in these fields: Agriculture, Home Economics, Business and Distributive Occupations, Industrial Arts, Industrial Education, Rehabilitation, and Vocational Guidance.**

★

## *Green Light, Amber Light, or Red Light— Which Shall It Be for Vocational Education?*

**Paul Cressman**

Progress in education never goes forward uniformly and steadily. It is usually charted as a "saw tooth" diagram. Public interest tends to emphasize frequently one phase of education at a time.

There are periods when the three R's in education are emphasized. There are periods when science is emphasized. This has been especially noteworthy since the days of Herbert Spencer. There are periods when particular attention is given to the crippled child—special education, adult education, or vocational education. We have noted special interest developing in the secondary education program, particularly the "Prosser Resolution" emphasizing the need for a new type of program for the over 50 per cent who will neither go to college nor enter the trades. Snedden, Prosser, and others championed vocational education in years gone by, and this climaxed with the passage of the Smith-Hughes Act of 1917.

School administrators who experience difficulty in keeping abreast with progress and these varying forward surges frequently flash a red stop light. They desire that all phases of education move forward smoothly and at the same rate of speed. Several school administrators, who were not interested in vocational education, referring to vocational leaders, have used the expression, "Lasso those wild horses; bring them in under the tent, dead or alive; hold them in line." In other words, give them and the movement the red light.

The amber light men and women proceed with extreme caution. They have learned a new word, "integration," and they love to use that word. They, too, are not familiar with vocational education and frequently not well grounded in general education. These people lend their influence to an integration movement which has in every period of our educational history ended in disintegration; or shall we refer to it as fusion ending in confusion?

Green light! Yes, for vocational education and all types of general and purposeful education. The green light should be given to programs in secondary or higher education preparing pupils for the professions, trades, commerce, distribution, agriculture, mines, home, as well as for the general training and preparation for citizenship.

Let's not STOP nor SLOW DOWN any form of needed genuine education. There is much we know how to do and have not done to date in sound educational practice. Educational practice follows the best educational thinking by centuries.

Look back to the original leadership in vocational education and see what those leaders had in mind when the Smith-Hughes Act was passed. The first statement was "for those now engaged in," and secondly, "those preparing for." In other words, vocational education was designed primarily for adults now engaged in occupations. School people have tended to emphasize only the preparation phase of the act. It is hoped that school people in America will exert sufficient leadership to provide functional education not only as preparation for a vocation but also an upgrading program for those now engaged in their chosen vocations. Such education will make the formation of government sponsored educational agencies, as the National Youth Administration, unnecessary in the future.

Progress is not made by stopping any group that is trying to do a good job, and only harm to all education is the result. Give them all the green light!

**PAUL L. CRESSMAN**
*State Director of Vocational Education*
*Pennsylvania*

★ ★ ★


### *OFFICERS*

**JULIAN A. McPHEE, *President***
California State Polytechnic College
San Luis Obispo, California

**L. H. DENNIS, *Executive Secretary***
American Vocational Association, Inc.
1010 Vermont Ave., N.W.
Washington 5, D. C.

**CHARLES W. SYLVESTER, *Treasurer***
2811 Mt. Holly St.
Baltimore 16, Md.

**FLORENCE FALLGATTER, *Past President***
Head, Home Economics Education
Iowa State College
Ames, Iowa

**DONOVAN R. ARMSTRONG, *V.P. Business Education***
State Department of Education
Baton Rouge 4, La.

**MAUDE WILLIAMSON, *V.P. Home Economics Education***
Colorado A & M College
Fort Collins, Colorado

**H. C. FETTEROLF, *V.P. Agricultural Education***
State Dept. of Pub. Instruction
Harrisburg, Pa.

**E. L. WILLIAMS, *V.P. Industrial Education***
Texas A & M College
College Station, Tex.

**GRACE M. HENDERSON, *V.P. Part-Time School***
Pennsylvania State College
State College, Pa.

**J. J. BROWN, *V.P. Vocational Rehabilitation***
State Bd. for Vocational Education
Austin, Tex.

**FRANK C. MOORE, *V.P. Industrial Arts Education***
Cleveland Public Schools
Cleveland 14, O.

*Send orders for publications, American Vocational Journal subscriptions, changes of address, requests for information to:*

**AMERICAN VOCATIONAL ASSOCIATION, INC., 1010 Vermont Ave. N.W., Washington 5, D. C.**

*Make all checks payable to the American Vocational Association, Inc.*

# The Wide Open Spaces

A nature study group trying to identify flowers and foliage

## NORTH CAROLINA FUTURE HOMEMAKERS PLANNING THEIR OWN SUMMER CAMP

FUTURE Homemakers and advisers of the North Carolina FHA left their classrooms for the wide open spaces last summer. Two camps belonging to the state FHA were rented. There were accommodations for approximately 1,000 girls.

A wide variety of experiences resulted. Some of the chapters attended "Tom Browne Camp" in the heart of the Appalachian Mountains, while others attended "White Lake Camp" near the coast.

A typical day included a flag raising and devotional ceremony; cottage clean-up; kitchen police duties; organized class activities in nature study, hiking, arts and crafts, music, dancing, swimming, first aid, water sports and out-door games; rest hour; group recreation which included swimming and water sports as well as time for hobbies and visiting. The evening programs included an amateur hour, open house in the staff headquarters, camp movies, square dancing, and stunts by all chapters.

During camping period special emphasis was given to studying the FHA program. The Leadership Council, composed of special delegates from each chapter, concentrated study on the rituals for conferring degrees of membership in state FHA associations. Rituals were planned for conferring the degrees of junior Homemaker, Chapter Homemaker, State Homemaker, and American Homemaker.

Climaxing the eventful camping experience, at the last evening program Marie Clymer of the Reidsville Chapter presented a gift of $210 from that chapter to be used toward a permanent camp. The FHA president accepted many other gifts from other chapters to contribute toward establishing a camp which North Carolina Future Homemakers can call their own.

**WILL FRANCES SANDERS**
*Former Assistant State Supervisor*
*Home Economics Education, North Carolina*

Baskets and mats completed were displayed on last day

Murfreesboro FHA chapter members entertained at "Stunt Night"

Photos by J. K. Coggin

Mrs. Eleanor Dodson teaches first aid to members of FHA

**Chart I. OCCUPATIONAL DISTRIBUTION of the gainfully employed in the United States, the State of Washington, the County of Grays Harbor, and the City of Aberdeen. 1940**

| | | Percent |
|---|---|---|
| Professional and Semi-Professional | U.S. | 7.4 |
| | Wash. | 7.8 |
| | Grays H. | 5.6 |
| | Aberdeen | 7 |
| Proprietors and Managers | U.S. | 19.7 |
| | Wash. | 19.1 |
| | Grays H. | 13 |
| | Aberdeen | 12 |
| Clerical and Sales | U.S. | 16.6 |
| | Wash. | 16.8 |
| | Grays H. | 12.4 |
| | Aberdeen | 16.7 |
| Craftsmen and Foremen | U.S. | 11.2 |
| | Wash. | 13.3 |
| | Grays H. | 14.3 |
| | Aberdeen | 13.4 |
| Operatives and Kindred | U.S. | 18.3 |
| | Wash. | 14.2 |
| | Grays H. | 17.9 |
| | Aberdeen | 17.5 |
| Service Workers | U.S. | 12.4 |
| | Wash. | 12.6 |
| | Grays H. | 9.9 |
| | Aberdeen | 12.2 |
| Farmers | U.S. | 4.3 |
| | Wash. | 4 |
| | Grays H. | 1.4 |
| | Aberdeen | 1 |
| Farm Laborers | U.S. | 2.6 |
| | Wash. | .9 |
| | Grays H. | .2 |
| | Aberdeen | 0 |
| Laborers | U.S. | 6.8 |
| | Wash. | 10.4 |
| | Grays H. | 23.7 |
| | Aberdeen | 19.5 |
| Not Reported | U.S. | .8 |
| | Wash. | .9 |
| | Grays H. | 1.2 |
| | Aberdeen | 1.3 |

| Place | Color | Population | % | Gainfully Employed* | % |
|---|---|---|---|---|---|
| U.S. | | 131,699,275 | 100 | 45,166,083 | 34.3 |
| Wash. | | 1,736,191 | 100 | 607,672 | 35 |
| Grays H. | | 53,166 | 100 | 18,392 | 34.6 |
| Aberdeen | | 18,846 | 100 | 6,992 | 37.1 |

2% (14 yrs. & older except on public emergency)

# CHARTS Tell th

## *A Community Survey Is Important To a School's Guidance Program*

IT GENERALLY is accepted today that a good school is so organized that its program meets the needs of boys and girls; that an inescapable responsibility of a principal is that of showing leadership in vitalizing education and relating the school program more closely to community life. Those who plan the curriculum or course of study know that a survey of a community is essential. With facts collected, they have a better idea of courses to be developed.

For a guidance program, knowledge of the community is one of the strongest assets. A careful study determines the type of training that should be offered in occupations. Questions should be asked such as: "Will there be sufficient demand for trained auto mechanics?" "Will there be a demand for carpenters, printers, salespersons, and the like?" "Will there be sufficient places of employment for part-time students?"

Knowledge of the community will give counsellors a perspective of the functions of the school as a social force. It seems almost imperative that if one is directing students, giving them advice in the selection of subjects, helping them with many questions of direction, that a pupil's experience or problems should be viewed in relation to the local, state, and national picture. It is with these things in mind that the author prepared several charts on the community of Aberdeen. The facts all were secured through the U. S. Census reports. A study of the charts shows that they might serve as a pattern for other communities to use in securing practical information.

A complete set of the U. S. 1940 Census reports reveals surprisingly detailed facts of every sort available. This information may be obtained from the Bureau of Census in Washington, D.C., in some 400 depository libraries to which copies of all government publications are sent, or in any one of several hundred or more public and school libraries. The reports are classified into four main topics: population, housing, agriculture, and manufacturing. Most of the information may be secured from the volumes on population.

One of the charts shows how 10 classified groups of workers gainfully employed in Aberdeen compare with the county of Grays Harbor, the state of Washington, and the U.S. Gainfully employed means 14 years of age or older, employed except on public emergency. A careful study of such a chart reveals many things about a community. It may give an idea of the type of students they will have in greater numbers than some other community.

The chart shows the percentage employed as "professional and semi-professional" of all four (city of Aberdeen, county of Grays Harbor, state of Washington, and the U.S.), constituted less than eight per cent of the people in the U.S. How does this compare with

# the Story

**K. OTTO LOGAN**
*State Supervisor of Distributive Education*
*Olympia, Washington*

the local school system? Are too many being prepared for professional careers? Are the majority of the students trying to crowd into the eight per cent group? Should the students know about this picture? Such a chart, reproduced on a large scale, could easily be used as a basis for discussion for teachers, school board members, service clubs, PTA's, etc.

This chart revealed that the greatest variation in this community, from that of the state and nation, was in the group classified as laborers. Variation was found under "craftsmen and foremen," also. "Clerical and sales" for Aberdeen rated about the same as for the state and nation. It was logical to expect the county to have less under "clerical" than the city, and so on.

In order to determine the type of laborers who were in abundance, a second chart was prepared in which major occupations were broken down. Percentages for the nation and state were quite easily secured but they had to be worked out for the city and county. They revealed that logging, sawmills, and planing mills were as high as 23 per cent, compared to one per cent for the nation. Wholesale and retail workers compared favorably with that of state and nation. It was natural to find a higher figure for retailing in the city than in the county.

The major classifications for the occupational distribution chart were Agriculture; Mining; Construction; Manufacturing; Transportation; Wholesale and Retail Trade; Finance, Insurance & Real Estate; Business and Repair Service; Personal Service; Amusement, Recreation, & Related Services; Professional & Related Services; Government; Industry not Represented.

A third chart was prepared analyzing retail trades. This chart broke down the retail establishments into 21 classifications showing the number of stores, sales, incorporated places, number employed, and total payroll. The general merchandise group was found to employ the most, 202; automative, 195; restaurants, 133, etc. With 1,164 employed in retail establishments, that meant 16.6 per cent of those gainfully employed in Aberdeen. This did not include those classified under personal service. The figures seemed to substantiate the statement of Kenneth B. Haas, former special agent for distributive education of the U.S. Office of Education, that not less than 15 per cent of all secondary school youths should be trained for distributive education.

In larger communities where business establishments are larger, there are more subdivisions in the field of distributive jobs than is evident in a small community. From *Job Descriptions for Retail Trade*, Volume III, U.S. Department of Labor, it is learned that 89 types of selling jobs are listed, 21 under accommodation services, 4 under bureau of adjustments, 8 in the credit bureau, 9 in the management and personnel jobs, 7 in merchandising jobs, 45 in merchandise handling, 20 in merchandise services, 9 in advertising, and 10 in display. It would be impossible to give an adequate description of each in this article, but the volumes are available to anyone who wishes to study them. For the purpose of the study of Aberdeen, a chart was prepared showing three types of selling—salesman, salesperson, and salesclerk. The first applies to jobs that involve a personal solicitation —going out after business. Salesperson is the term applied to jobs where the individual is assigned to the floor and knows how to sell, but customers are not solicited. The salesclerk requires least training, for this job involves standing behind a counter to receive cash payment from the customer.

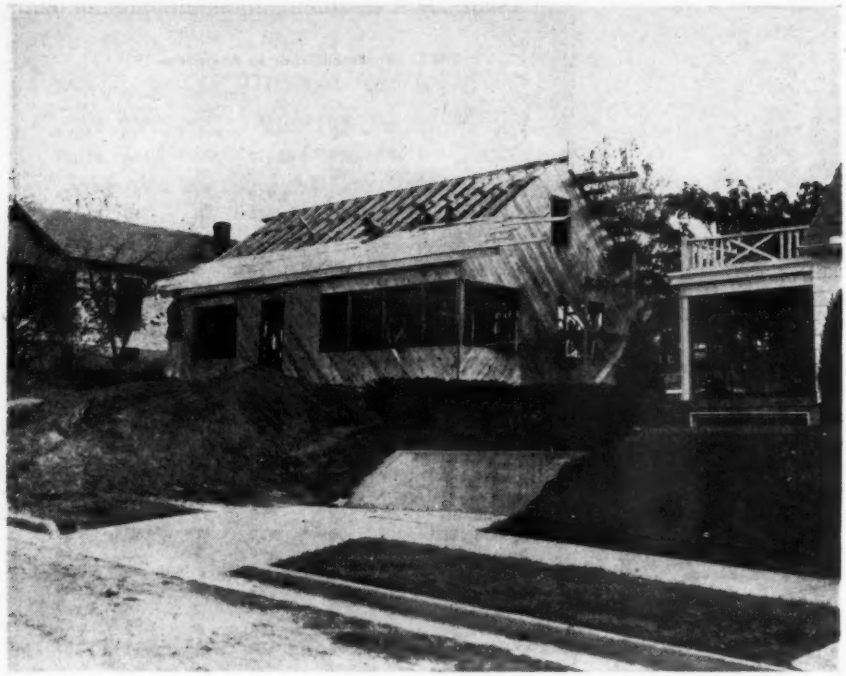
**CHART III. Retail Trade in Aberdeen—1939**

| CITY | No. of Stores | Sales Add 000 | Active Proprietors of Unincorporated | *No. of Employees Average per Year | *Total Payroll Add 000 |
|---|---|---|---|---|---|
| Aberdeen | 379 | $12,018 | 346 | 1,164 | $1,331 |
| Grocery (Comb. store) | 74 | 1,950 | 71 | 109 | 114 |
| Other Food Stores | 35 | 638 | 34 | 55 | 55 |
| General Store (With Food) | .. | .... | .. | ... | ... |
| Gen. Merchandise Gr. | 9 | 1,517 | 5 | 202 | 169 |
| Apparel Group | 27 | 809 | 20 | 109 | 117 |
| Shoe Stores (All kinds) | 7 | 210 | 2 | 26 | 28 |
| Furniture (Household) | 11 | 645 | 7 | 58 | 90 |
| Automotive Gr. | 21 | 2,732 | 15 | 195 | 302 |
| Filling Stations | 39 | 626 | 38 | 50 | 48 |
| Lumber & Bldg. Materials | 4 | 210 | | 20 | 31 |
| Plumbing, Paint & Electric | 10 | 240 | 10 | 40 | 54 |
| Hardware | 2 | | | | |
| Farm Implement | .. | .. | .. | ... | ... |
| Restaurants | 44 | 528 | 53 | 133 | 121 |
| Drinking Places | 38 | 422 | 41 | 65 | 59 |
| Drug Stores | 11 | 394 | 9 | 28 | 36 |
| Liquor Store | One store combined with other stores | | | | |
| Fuel, Ice, Oil | 4 | 226 | 4 | 27 | 49 |
| Feed Stores | 3 | 167 | 1 | 6 | 7 |
| Jewelry Stores | 3 | 134 | 2 | 12 | 18 |
| Other Stores | 39 | 570 | 34 | 29 | 33 |

*Employee and payroll include paid executives of corporations but not the number and compensation of proprietors of unincorporated businesses.

The chart was drawn to indicate opportunities in distributive education. A definite attempt was made to tie the interests of a person with the corresponding job that distributive education offers. This does not infer that interests necessarily mean aptitude or ability, nor was the right job always matched with the right interests. But the chart was a step in the right direction. If a person's interests can be determined by tests or interviews, or if he knows his interests and can place them under persuasive, mechanical, clerical, artistic, literary or musical, computational, scientific, or social service, then a big task is completed. The next step is to find the job that suits these interests. A person who has strong persuasive and mechanical interests might be directed into the selling of tractors. One with artistic interests may find his niche in the designing work of the firm.

Knowing your community and knowing what the occupations have to offer can be used effectively in a guidance program.



Carpentry class in Missouri has a valuable and practical experience

# They Built A House

**GEORGE E. KOHRMAN**
*Director of Industrial Education*
*Department of Education, Missouri*

IN CAPE GIRARDEAU, Missouri, the building trades class of Central High School has learned how to build a house by building a house.

There are text books and outlines and courses on carpentry, of course, but the boy who saws the timbers, fits them, and nails them into place knows what it's all about.

It was more than a year ago that L. J. Schultz, superintendent of schools at Cape Girardeau, suggested a building trades training program to the board of education. His plan was approved both by his board and the local building trades council; there was enthusiastic interest on the part of carpenters, plumbers, bricklayers, lumber dealers, contractors and others engaged in this industry. An advisory group of citizens was appointed to work with the school in setting up and operating this new type of instruction. The Industrial Education Section of the State Department of Education gave its approval and H. B. Lehman was named as instructor.

Before starting the enterprise, representatives of the State Department, the Cape Girardeau schools, and the instructor visited Decatur where a similar program was in operation. During the summer the course of study was prepared, plans were made, and a budget set up.

After considering several choice locations, a lot in the west section of the town was purchased for $1,250. A used panel truck cost $250, and five sets of carpentry hand tools were purchased for the students taking the course.

The spring pre-enrollment had indicated considerable interest in the proposed carpentry course. During the summer the instructor, cordinator, and high school principal interviewed the boys and 18 were selected as those most likely to profit from the work because of the necessary interest, ability, and background. Most of them were juniors. They were divided into two classes, one to work on the house for three hours in the morning, and the second to spend three hours there in the afternoon.

A classroom was provided in a section of the auto mechanics shop which could be partitioned off. Here tools and supplies could be stored, and classes held during bad weather.

The automechanics class reconditioned the panel truck during the first two weeks of school and it was then available to transport students, lumber, tools, and materials to the site. Seats were installed on each side after the rear panel of the truck had been removed.

Arrangements were made to have the excavation for the basement dug prior to opening of school, but no work was started until the class had had the opportunity to lay out the foundation on the lot and establish the levels. This was part of their training. On the first day of school Mr. Lehman and his class were on the lot, staking out the house they intended to build. The basement was then dug while the students were preparing material to construct the wooden forms for the poured concrete walls.

A contractor poured these walls, but instructor and students were there to check the work with the specifications and to learn the problems involved. Forms were then removed, the lumber cleaned and stacked to be used again for studding and sheathing. Metal termite shields were placed on the foundation walls, sills

*(Continued on page 21)*

*Survey Shows Homemaking Teachers Reach Important Group in this Way*

# Informal Methods

**MARY S. LYLE**
*Professor of Home Economics Education*
*Iowa State College*

*AND*

**MRS. MANUELA QUINONES**
*San Pedras, Puerto Rico*

HOME VISITS, neighborhood groups, workshops, clinics, conferences, and exhibits now are taking their place along with organized classes in adult education in homemaking. These were the procedures most widely used by selected groups of teachers in the Southern and Central Regions of the U. S. and in Puerto Rico, as revealed in a study of informal methods. Three other informal methods—radio programs, program-planning workshops, and newspaper articles—also were included in the study but were used by very few of the teachers.

Only teachers recommended by state supervisors as successful in the use of informal methods were sent questionnaires. A total of 107 teachers, 48 from 10 states in the Southern Region, 44 from 9 states in the Central Region, and 15 from Puerto Rico sent information.

PREVIOUS experience in the use of the method, a need for supplementing class work with less formal methods, and the fact that class instruction did not seem effective, were the reasons given by most of the teachers for using informal methods.

Availability of transportation for the teacher was the most important factor in the success of home visits and neighborhood group work, most teachers who participated in the study indicated. Sufficient time for planning and conducting the activity was most important in the successful use of workshops, clinics, and conferences. Good cooperation from school authorities was said by most of the teachers to be a factor for the success of exhibits. Most teachers reporting from the Southern Region considered cooperation from experts important in the success of clinics. This was expected since experts are needed in any clinic to help diagnose difficulties and find means of solving them.

Cooperation from community organizations also was an important factor in the success of neighborhood groups, clinics, and conferences. An interesting fact revealed by the study was the assistance given to the teachers by community workers in planning and evaluating instruction.

TO learn whether informal methods were serving the lower income groups who so often are not enrolled in organized classes, teachers were asked whom they reached by each method used. The majority of teachers reported that they served middle income groups with each informal method. More than half had been able to serve adults from the low economic level, especially with home visits, clinics, and exhibits.

Did the teachers reach other groups of persons than the unemployed homemakers most often found in classes?

Most of the teachers said they reached the homemakers with each of the informal methods. Employed homemakers were served by the next largest number of teachers. Exhibits, conferences, and workshops were the methods used by most teachers to reach this group. Although some teachers had been able to serve out-of-school girls by each method, more had served them with program-planning workshops and exhibits than with other methods.

A small proportion of the teachers reported giving instruction to business women over 25 years of age by each method. Exhibits was the means through which most teachers reached this group.

Fewer teachers reached men than had reached other groups by means of these informal methods. Newspaper articles and exhibits were the methods by means of which most teachers believed they had reached men with some adult homemaking education.

INFORMAL methods provide an opportunity for reaching a larger proportion of individuals of no more than elementary school education than usually is possible with formally organized classes. Although the largest number of teachers reported that they served individuals with some high school education, more than half of them said they reached the groups who had only completed elementary school, in this manner.

How were the activities financed?

Local school funds were used in two-thirds of the cases. Only in a few instances were state or Federal funds used. In two-fifths of the cases the teacher herself had to use her own personal funds to cover the costs and in about one-third of the cases the students assumed part or all of the cost through fees or by prorating the expenses.

This study of informal methods indicates that here is a possibility for reaching a group of homemakers who do not like or cannot join the formally organized classes. There also is a possibility of making the organized classes more effective by supplementing them with one or more of the informal methods.

# Letter From China

## Home Economics Teachers in Training Write of Life on a Chinese Campus

***EDITOR'S NOTE:*** **Miss Maude Williamson, head of home Economics Education, Colorado A & M College, Colorado, and vice-president of the AVA for home economics, has received the following letter from a group of home economics teachers in training in China. The letter was written on January 17, 1948, from Ginling College, Nanking, China, and is of interest to all vocational groups as well as those representing home economics education. G.H.F.**

THE new year holiday has just ended. Once again the campus is alive; for many schoolmasters have come back from their homes. The students of Ginling come from different places in China. There are a few foreign students too. For example, we have some American girls whose parents live here; two Indian girls, twins, whose father is the Ambassador from India to China. We seven girls in Methods of Teaching come from five different places and speak Mandarin with different enunciations. It's interesting to study here for since people from various places gather together, we have opportunities to learn different customs, dialects, and exchange our ideas. To learn in our daily lives is more efficient than from books alone, isn't it?

We hope that Ginling will be an international college someday so that we can see a miniature of the world from the campus.

Would you like to know something about our daily lives? Most of us get up no earlier than seven because now it's quite cold in the morning and we have no fire in our dormitories. We hardly leave our warm blankets. We've somewhat meagre food in school, especially for breakfast. Cangee, a kind of rice porridge, Chinese bread, and a little vegetables are what the school gives us in the mornings. The girls of the nutrition class calculated the calories given by the food in school and discovered we received only about half of our daily energy requirements. We home economics girls decided to open a canteen in order to help our schoolmates to get supplementary food there. Friends of the school in Ginling gave money and Ginling cleaned and repaired and painted a room, installed a sink, and also gave us necessary tables, chairs, and cupboards and some other UNRRA supplies. Our canteen then began to open. We practiced how to manage, to sell, to serve, to prepare, and cook our food. Mrs. Woo, the cafeteria teacher, said that she saw the canteen grow. She indeed gave us courage and confidence to carry on the canteen.

A few weeks ago, the Home Economics Club held a meeting and decided to keep the canteen next semester though at present the canteen has been closed due to the fact that final examinations are drawing near.

Alright, let's continue to tell you about our daily lives. We begin to have classes at eight and chapel at 12. We're not required to go to chapel but have our own choice. In winter, after the morning classes we usually sit on the lawns to get warm if there is sunshine. You don't know how much the sunshine means to us in cold weather. We often ask the teachers to have class in a sunny classroom when it's cold. The home economics laboratory is the warmest among all classrooms, we believe. That's why we all want to have class there. Our charcoal stoves, tin ovens, sewing machines, cooking utensils, tools for making toys, are all in one room because the school has provided only one laboratory for the home economics department. Now we are told that we shall have a new home economics building and a practice house to be contributed partially by Oregon State College. We are wild with joy and excited; at the same time we feel thankful to those who give us so much help. Now we should work hard to improve the home economics department. A few weeks ago, we found a new refrigerator in the home economics laboratory and the teacher told us it was newly arrived from the States. We made ice cream and lemon sherbet in the new refrigerator in cooking class.

We have dinner at 6:20 and after that we often go to the library. We have quite a lot of new books this semester. Those books indeed give us help in finding materials. There are only a few Chinese home economics books nowaday, for home economics is not generally taught in China yet. One of the home economics girls who graduated last year now is teaching in Canton. She told us how hard she was finding it to organize her teaching materials. We're now using your book, *Homemaking Education*, as reference in the Method of Teaching class. We really find it useful. We know we should say thanks but don't know how to express it.

During week ends we usually go to movies, parties, picnics with our friends. We're anxious to know something about the campus life in America because we were told that there are lots of fun and activities. Please ask some American girls to write to us and tell them we're willing to be their friends.

Sincerely yours,

Dung Shi-ran (writer of the letter)
Yang Chwan-bing
Lin Sioung Dan
Djang Min Yen
Hwang Lung Shi
Chen Yu-Mo
Dju Dzwen Hua

Linden Union High School FFA boys, Linden, Calif., and their new tractor, one of several pieces of equipment they have bought

# FFA Buys Equipment

**GLEN C. COOK**
*Teacher Trainer in Agricultural Education*
*Michigan State College*

A NUMBER of chapters of Future Farmers of America have purchased farm equipment cooperatively. The members of these chapters are students enrolled in vocational agriculture in high schools throughout the U.S. These students live on farms and conduct farming programs supervised by the teacher of vocational agriculture. Consequently they have have many needs for appropriate farm equipment.

Numerous kinds of farm equipment have been purchased cooperatively by FFA members. Many chapters have purchased tractors and later secured supplementary equipment such as plows, disks, cultivators, grain drills, hay balers, potato diggers, etc. A number of chapters have purchased such equipment as sprayers, sheep dipping rigs, and various other labor-saving devices.

Some of the FFA members live on small farms and do not have access to the kinds of equipment which will help them to perform their jobs on the farm most efficiently. For these students it is especially desirable to have some FFA chapter-owned equipment which they may rent at a reasonable figure. There may be times on some of the larger farms when all equipment is in use. FFA members living on these farms may desire to rent their chapter-owned equipment for a short time.

FFA chapters frequently have group projects in which tractors and other types of equipment are used. These group projects may consist of corn projects, orchard projects, livestock projects, and others. In some instances a school farm is available where students have opportunity to operate tractors and supplementary farm equipment.

Equipment purchased cooperatively by FFA chapters often is used in connection with their community service program. These programs include such activities as spraying fruit trees, dipping sheep, and painting buildings. In this way the FFA members render a service to farmers in the community and make money for their chapter by charging a fee for performing the different jobs.

Some chapters have used their equipment in connection with performing custom work for farmers in the community. The amount of custom work usually is limited since the FFA members are busy with their farming operations at home and do not have time for doing a large amount of work away from home.

Various methods of financing chapter-owned equipment have been used by FFA members. Some follow: (1) Using chapter funds available for such purposes which have been raised through various community services such as controlling bots or grubs, spraying orchards, pruning fruit trees, treating cotton seed, and selling hot house plants; (2) selling shares of stocks in tractors and implements; (3) securing loans from a local bank; (4) securing loans from agricultural lending agencies serving the community.

Before deciding to purchase equipment cooperatively, FFA members make a careful study to explore the possibilities for the use of the equipment and a sound financing plan which will be suitable for the chapter.

The equipment affords a number of opportunities for effective training in the use, operation, care, and maintenance of equipment. It is available at the school for the teacher to give demonstrations in its adjustment, operation, care, and maintenance. These demonstrations are followed by the students trying out their skill in adjusting and operating the equipment.

This training develops desirable attitudes and appreciations in the care of equipment and many abilities in using it. The best place to teach the adjustment and operation of equipment is in the field under actual farming conditions. This frequently is impossible in departments of vocational agriculture where farm equipment is not available for school use.

In a tractor and implement project a common practice is to arrange a field day for the entire FFA group when the tractor and implements are demonstrated by the dealer. Some of the more capable boys usually are given practice in operating the equipment. These boys then train the others under the close supervision of the teacher of vocational agriculture.

The students not only receive training in the adjustment, care, and operation of the equipment but they also receive valuable training in storing the equipment effectively.

# Here's What They Say

**ARNOLD ZOPF**
*Supervisor of Distributive Education*
*St. Louis, Missouri*

"THEY work like 'eager beavers' and do all the tasks assigned to them."

The distributive education division of the St. Louis, Missouri, schools recently completed a survey of 16 stores which employ part-time cooperative high school students. All store executives interviewed agreed that these students have proved themselves to be well-selected, well-trained, and adaptable.

Personnel directors and store supervisors agreed that the practical training which students receive at school, plus their experience on the job, will be valuable in securing permanent, full-time employment. Employers and store supervisors further stated that the high school part-time cooperative program should assist them greatly in improving sales personnel to meet 1948 competition. Last term practically all seniors were offered full-time employment after graduation. Both the small store owner and the top flight executives of the large department stores realize that not only a re-training program is necessary for all salespeople, but the new salesperson must be better equipped than ever before if he is to succeed in the highly competitive 1948 market.

The following excerpts from letters received from store executives are typical, and indicate what St. Louis cooperating stores think of the local program of distributive education.

**William Semsrott, manager, Associated Retailers:** "As liaison between retail management and the Board of Education, I have been exposed to the problems and details which evidently arise in the vocational approach in an academic school. Our high school cooperative part-time program has now been established and with all the earmarks of permanency. It is very evident that educators and retail managers must give and take in making possible this type of education. After receiving this basic training it would appear that those who go on to college courses certainly will have a tremendous advantage over the uneducated in retailing."

**Robert LeMar, personnel manager, Stix, Baer & Fuller:** "I think it is important to take into consideration that for many years there was a wide gap between education and business, and while vocational training in the trades and other industrial activities has been developed for a good many years, the need for a practical approach to salesmanship and retail store operation was not given proper consideration until recent years. Prior to the development of the program it was necessary for the stores to start from scratch and determine by the trial and error method whether a candidate for employment was suitable for the work. Now it is possible for the student to learn whether he will be happy in the field and the employer has the advantage of having the candidate under observation before employment."

**Cornelius Boersma, personnel director, Scruggs-Vandervoort-Barney:** "It has been our experience that the part-time cooperative high school students referred to us by the St. Louis high schools have been industrious and seriously interested in learning retailing, not just using the program as a part-time job to earn 'spending money.' We feel that this basic training will provide St. Louis retail stores with a group of beginning workers who will have a better understanding of the needs and opportunities in retailing."

**Mrs. Portia Deacon, training director, Famous-Barr Co.** "The high school part-time cooperative program affords the retailers, members of the school board, and the taxpayers of the community an opportunity to see what is being done in the way of developing more efficient salespeople. At the same time, it provides the student with real training in the only genuine laboratory which could be set up for the merchandising class."

**L. A. Kuhlmann, personnel manager, Boyd-Richardson:** "For the past year and one-half we have engaged students who are enrolled in the high school cooperative retail program. We have found these students to be well-trained and adaptable for our purposes, more so than the average high school student. Since we have worked closely with the coordinators and supervisors of the high school program, the selection of students has fitted our needs exceedingly well. Five of these former students now are working full-time for us and are progressing splendidly."

**The good techniques in selling a raincoat are taught to this distributive education class at Roosevelt High School in St. Louis**

# What About Research?

***Director of Vocational Education Has Responsibility for This Function***

**THOMAS DIAMOND***
*Professor of Education*
*University of Michigan*

THERE are those in the field of vocational education who classify the person engaged in research as an impractical theorist. Because of this, the director is apt to avoid any activity that might be considered research lest someone form the opinion that his program is not practical. As a matter of fact, Webster has defined research as, "A careful and diligent search for facts."

If this definition is accepted it would seem that nothing could be more practical for a director of vocational education to engage in, than the discovery of facts concerning his field of education and particularly about his department.

As a member of the superintendent's staff, the director is responsible for keeping his chief informed regarding matters pertaining to vocational education. The superintendent cannot be expected to be intimately acquainted with the needs of each area in his school system. His actions are based upon information received from his associates who are specialists in their fields. To the extent, therefore, that this information is accurate, to that extent will his actions tend to be sound.

BECAUSE of this it is imperative that the director "know of what he speaks." He cannot afford to base his information on his opinion or a hunch. He must *know*. As the superintendent learns that the advice he receives from an associate is always based upon scientific investigation he develops confidence in that associate and tends to accept his recommendations without question. On the other hand, when a director guesses on important matters related to his work, he has a 50-50 chance of being wrong, and from the standpoint of the superintendent this is a poor batting average.

This means that the director of vocational education must be on the alert to investigate and weigh each phase of his work to the end that he is in a position to speak with authority on matters pertaining to it. This means research.

Since research is a responsibility of the director, the question arises, "What are the areas to which he should direct his attention?" The answer might be that all phases of his work are subject to investigation. However, the following are some that should receive attention:

(1) To what extent do students enter the occupations for which the school has prepared them?

IF the aim of vocational education is to prepare people for effective participation in an occupation then it would appear that the director should be interested in the extent to which the people trained in his department actually make use on the job of what they have learned in school.

(2) What is the cost of running the department?
What per cent of this is expended for administration?
Is this too high, or too low?
What percentage for teachers' salaries?
What percentage for materials and new equipment?
What percentage for replacements?

(3) How does the cost of running one school compare with the cost of others in the same school system?
What is the cost per pupil?
In the school system?
In the department?

(4) How does the efficiency of one teacher compare with that of another in regard to (a) the number of pupils taught; (b) the breakage of equipment; (c) the quantity of supplies used; (d) the number of pupils placed on jobs.

(5) How does the growth of the department compare with the general growth of the school system and the city as a whole?

(6) What are the needs of your community in regard to training opportunities for industry and business?
To what extent is the school supplying those needs?

(7) Does the student who has failed in academic work do well in shopwork?
Is it true that only the dull students should be guided into the trades?

THESE suggestions cover only a few of the areas concerning which the director should have first-hand accurate information. If he is to assume leadership in his field he must know, and be able to talk authoritatively, about these and many other conditions relating to the school. To the extent that he possesses the facts, to that extent he will win the confidence and cooperation of those who work with him.

If a director expects to develop this confidence he must be constantly on the alert to discover the facts on all phases of the work in his department. This is not merely an incidental inquiry; it means consistent and diligent search to which all members of his staff may contribute.

---

*The author of this article is the newly appointed contributing editor for Trade and Industrial Education.

# Everything but the squeal?

Utilization of livestock by-products is important to all farmers and ranchers. Of the total dollars received by Swift & Company for lambs, 15% to 25% comes from by-products. Cattle by-products amount to 10% to 20%. With hogs it is 2% to 5%. When bidding on live animals, Swift & Company's buyers estimate the yield and grade of edible meat. In their estimate they figure, too, the value of all by-products, including hides and wool.

Livestock by-products have greatly increased the value of your meat animals. Since earliest times, man has used hides and wool to make clothing. But only in the past half-century has research found the present great variety of uses for by-products. Fats, and lanolin from wool, are the base of many cosmetics, healing creams and beauty aids. Photographic film is coated with a gelatin compound. Other uses of gelatin and glues are almost endless. Animal fats are the main raw material of toilet soaps.

Life has been lengthened for people with diabetes, anemia and other diseases. They are helped by drugs such as insulin, liver extract, pepsin, adrenalin. These are all made from the glands of livestock. But for the painstaking care of meat packers, these glands would go to waste. This happened during the wartime "black market" in meats, and the supply of insulin ran low.

With the growth of meat-packing plants, the war on waste began in earnest. Science found new ways to use by-products of your animals. Bristles make brushes. Bones make knife handles. Hair makes upholstery padding. Bones, blood and scraps go into animal and poultry feeds.

Yes, we find use for every valuable part of cattle, hogs and lambs.

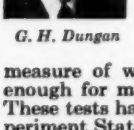
Each new use for by-products adds value to livestock . . . and directly benefits producers.

**Speaking of By-Products** . . . Here's a movie about 'em—just the film to complete your community or school program: a 16mm. sound, color cartoon, "BY-PRODUCTS." It runs 10 minutes—and tells the story of livestock by-products and their uses. You may also want to show "MEAT BUYING CUSTOMS," another 10-minute cartoon. For a history of the livestock-meat-packing industry, you'll like "LIVESTOCK AND MEAT"—49 minutes, black and white. "A NATION'S MEAT" is a shorter version—30 minutes—full of information on the American meat supply. Then there is "COWS AND CHICKENS . . . USA," a story of diversified farming—the dairy and poultry business in a nutshell. Please give us at least a month's advance notice to handle bookings. We can ship by express or parcel post. Only cost to you is payment of express or postage one way. A 16mm. *sound* projector is required. Order from Agricultural Research Dept., Swift & Company, Chicago 9, Illinois.

**Soda Bill Sez:**

*. . . the best way to get out of trouble is to plow right through it.*

## Gage Rate of Planting Corn by the Yield Expected



*G. H. Dungan*

*by* **George H. Dungan**
**University of Illinois**

Proper balance between the number of plants per acre and the ability of your land to produce, is needed for maximum corn yield. On the average, corn yields are highest when the ears weigh approximately ½ pound each.

Use of the average size ear, as a good measure of whether or not the number of plants is great enough for maximum yield, is a result of many field trials. These tests have been made at the Illinois Agricultural Experiment Station and other Corn Belt stations.

On this same basis, if your average ear last fall weighed over ½ pound, you probably did not get maximum yield. With more plants in your fields, producing more and smaller ears, your cribs might have been fuller.

To put these results to work, you should know that 7,000 half-pound ears per acre are needed for a 50-bushel yield. Seventy-five bushels require 10,500 such ears; one hundred bushels, 14,000 ears; and one hundred twenty-five bushels, 17,500 half-pound ears.

At planting time, yield of your land should be estimated. Keep in mind that not every kernel will produce a plant. Expect 90 plants from each 100 kernels, under favorable conditions.

If you estimate your land can produce 50 bushels per acre, you should end the season with 7,000 plants. This calls for planting two kernels per hill in rows 40 inches apart each way. With this same spacing, if one estimates yield at 75 bushels, he should plant three kernels per hill; 100 bushels, four kernels; and 125 bushels, five kernels.

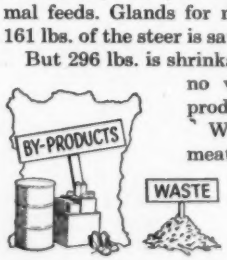

## A Steer is NOT all Beef

Let's take a look at this steer. It weighs 1,000 lbs. It's not all steak. In fact, only a little more than half is saleable beef.

Hanging in Swift's cooling room, our steer has become two sides of beef. Together they weigh 543 lbs. What happened to the rest?

Modern meat packers save everything of value from the steer—heart, tongue, liver, sweetbreads and other fancy meats. Hides for leather; bones, blood and scraps for animal feeds. Glands for medicines. All told, 161 lbs. of the steer is saved in by-products.

But 296 lbs. is shrinkage and material of no value. Only the meat and by-products can be sold.




What happens to the money the meat packer receives? It is used to buy livestock and other raw materials. It meets the expenses of slaughtering, dressing, refrigerating, transporting and selling. It pays rent, insurance, taxes—all the costs of doing business. The amount remaining after all of these expenses are paid is the meat packer's profit. Over a period of years, Swift & Company's profit has averaged a fraction of a cent a pound on the products we sell.

That's the explanation of the "spread" between livestock prices and wholesale meat prices.

**Swift & Company** UNION STOCK YARDS CHICAGO 9, ILLINOIS

# ...Not quite

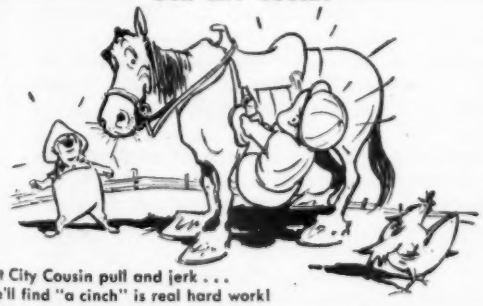
## *Martha Logan's Recipe for*
### FRIED CHICKEN WITH GOLDEN GRAVY

(Yield: 5-6 servings)

| | |
|---|---|
| 1 frying chicken (2½-3 lb.) | ½ teaspoon pepper |
| ½ cup yellow corn meal | 6 tablespoons bland lard |
| ¼ cup flour | About ¾ cup water |
| 1½ tablespoons salt | 3 cups milk |

Clean, wash and cut up chicken into serving pieces. Dry. Combine corn meal, flour, salt and pepper in paper bag. Put chicken pieces into bag, close top and shake bag until pieces are well coated. Reserve excess corn meal-flour mixture for gravy. Brown chicken well in hot bland lard in heavy skillet. Add ¼ cup water. Cover tightly and simmer slowly for 1 hour or until chicken is tender. Add remaining water as needed. Remove chicken and keep it warm while preparing gravy. Combine corn meal-flour mixture with the drippings in skillet. Brown lightly. Stir in the milk and cook until corn meal is cooked and gravy thickened. Serve gravy with chicken.

**OUR CITY COUSIN**



Let City Cousin pull and jerk . . .
He'll find "a cinch" is real hard work!

## We All Want the Top Dollar

You, as a producer of livestock, want to get the best price for your animals—"the top dollar." As a salesman for Swift & Company, selling the products which result from these animals, I, too, want to get the top dollar.

The meat packer's buyer has to judge the grade of the animals and estimate how they will yield. He then makes his bids in competition with buyers for many meat packers and other commercial slaughterers. To get the animals, he has to offer going prices. Otherwise he just won't get them; somebody else will. And that "going price" which he *must* pay depends on the number of animals on the market and the demand for them.

After Swift & Company has made the animals which it has purchased into meat and by-products, we must *sell* them, again in stiff competition. If we don't offer meat at the going price, retail meat dealers will buy from somebody else who does. *This competition in both buying and selling is so keen* that we have to operate on a margin of profit which averages but a fraction of a cent per pound of product handled.

In our business, as in yours, it takes hard work and good management to come out with money ahead on a year's operation. Our efficiency in selling meat and by-products results in important economies and savings. Only through such savings can we earn our profit—and help increase the value of your livestock.

O. E. Jones
*Vice-President, Swift & Company*

* * *

*Mr. Jones, "guest editor" this month, is Vice-President of Swift & Company in charge of sales and advertising.*

**NUTRITION IS OUR BUSINESS—AND YOURS**

***Right Eating Adds Life to Your Years—and Years to Your Life***

When writing advertisers please mention *American Vocational Journal.*

# AVA Committee Reports

## *Women in Industry and Home Economics Consider Valuable Counseling Materials*

THE joint committee of women in industry and home economics of the American Vocational Association has appointed a sub-committe, No. 1, to develop materials which will specifically aid homemaking teachers in counseling high school girls concerning wage-earning occupations available to them.

The home economics teacher, particularly in a small rural community, often is in a position to counsel with her students concerning their vocational problems. This inevitably will call for a study of each individual enrolled in the homemaking classes. It may be made possible by (1) home visits, (2) interviewing students, (3) becoming familiar with individual student records, (4) cooperating with other teachers and community agencies working with students, (5) becoming familiar with occupational requirements and opportunities.

In addition to learning about her individual student, the home economics teacher should learn about occupations available in the community, in the state, and in the nation for women in order that she may be able to give information concerning wage-earning occupations suited to the individual.

THERE are numerous ways in which accurate information about different kinds of work can be obtained by the home economics teacher and pupils. These might include:

Occupation classes.
*Visits to business and industry.
Employment services.
*Interviews with workers and executives.
**Community job surveys.
Local board of trade, Chamber of Commerce, service organizations, etc.
****Occupational information and guidance service of the U. S. Office of Education and state departments of education.
*Visual aids—slides and film strips, stereographs.
***Pamphlets, clippings, and books about jobs.
*Exhibits of occupational materials.
Magazines, bulletins, and newspapers.
School and college catalogs.
*Work experience.
Career days or visiting speaker programs.
*Radio programs.

The following references should prove helpful to all home economics teachers who attempt vocational counseling. The asterisks refer to the references appropriate for the activities outlined in the list preceding.

**Methods of Vocational Guidance,* by Gertrude Forrester, D. C. Heath & Co., Boston, Mass.

****Occupations: A Selected List of Pamphlets,* by Gertrude Forrester. The H. H. Wilson Co., New York, N. Y.

*****References and Related Information,* by Marguerite Zapoleon and Louise Moore, Superintendent of Documents, Washington, D.C.

*Selection of Students for Vocational Training,* by Fred M. Fowler. Superintendent of Documents, Washington, D.C.

***Community Occupational Surveys,* by Marguerite Zapoleon, Superintendent of Documents, Washington, D.C.

*Giving Information About Occupations,* by Gertrude Forrester. Science Research Associates, 228 S. Wabash Ave., Chicago, Ill.

*Occupational Dictionary,* by the U. S. Department of Labor and U. S. Employment Service, Washington, D.C.

*Principles and Techniques of Vocational Guidance,* by George E. Meyers. McGraw-Hill Book Co., New York, N.Y.

*How to Interview,* by Bingham and Moore. Harper & Bros., New York, N.Y.

*Guiding Youth in the Secondary School,* by Leslie Chisholm. American Book Co., Cincinnati, O.

*How to Counsel Students,* by E. G. Williamson. McGraw-Hill Book Co., New York, N.Y.

*Vocational Guidance for Girls and Women,* by Zapoleon and Moore. U. S. Office of Education, Vocational Bulletin No. 214, Washington, D.C.

Home economics teachers who counsel students regarding wage-earning occupations should have the qualifications of any good vocational teacher.

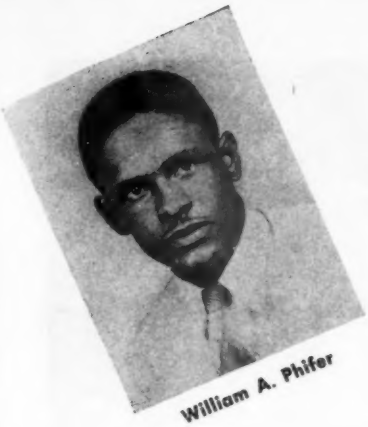
Respectfully submitted,

Nettie T. Yowell, Chairman
Ella Stephens Barrett
Marguerite Loos
A. K. Getman
Stanley J. Perkins

*Most helpful.

*New Farmers of America Honor Outstanding Agriculturists*

# Awards for Winners



William A. Phifer

**RUBY CORDER,**
*U. S. Office of Education*

WILLIAM A. PHIFER, Clarkton, N.C., a veteran of World War II, seven years out of high school, a 27-year-old outstanding young farmer and leader in his community, is winner of the 1947 H. O. Sargent Award.

This award is made each year at the national convention of the New Farmers of America, to a former student of vocational agriculture who has been sent out of school for from three to ten years.

The highest award provided by the constitution of the New Farmers is the Superior Farmer Degree, and each year the highest ranking Superior Farmer is designated as the Star Superior Farmer and is presented with a $100 cash award by the Future Farmers of America Foundation. This year the winner of the Star Farmer award (1947) is Julius Kennedy, Mt. Sterling, Alabama.

The H. O. Sargent Award is the highest recognition given by the NFA for individual membership achievements in farming and rural leadership. Beside the engraved H. O. Sargent Award trophy plaque and the certificate of award, Mr. Phifer received a cash gift of $150 from the Future Farmers of America Foundation.

In 1935 this young man entered the vocational agriculture class of Farmers Union High School at Clarkton and joined the local chapter of NFA. His first farming project comprised three acres of corn, two pigs, one acre of tobacco, and one acre of peanuts. Because of the death of his father, he had the responsibility of assisting his mother in taking care of the farm home. The farm was too small to accommodate his school supervised agricultural projects and it was necessary to rent (on a cash basis) five acres of land from a near-by farmer. Excellent results were obtained from this farming program. From the sale of tobacco, peanuts, and corn he paid off the loan made to finance his project, paid rent on his land, and purchased one registered Duroc Jersey bred gilt and one boar. In his leadership activities that year he won second place in the state NFA judging contest and was also captain of the local school basketball team.

The next year, 1936, he had three acres of corn, one and one-half acres of tobacco, one acre of peanuts, 12 hogs (eight of which were registered), and 100 baby chicks. He purchased three Holstein heifers, remodeled or built new equipment, and improved the home farm yard with shrubs, walks, drives, and a lawn. He was president of the NFA chapter that year and represented them at the state NFA Camp.

The third year he was chapter secretary, took part in the public speaking contest, was a delegate to the national NFA, and carried on a full agriculture program. In 1938, however, he had to drop out of school but continued his education through young farmer classes which he attended until 1942. In 1940 he was awarded the Superior Farmer degree.

After three years in the armed services he returned in 1946, and took advantage of veterans' classes in agriculture. He had rented his land while away and thus completed payments on it.

Since then he has built a new five-room home for himself and his wife, owns 30 acres and rents 34, in addition to taking care of his mother's 25-acre farm. He has increased his farming activities and holdings, and participated in many community activities. He has lived up to the high ideals of character and citizenship responsibility for which the NFA stands.

Leadership training in the NFA enabled him to take part in a community improvement club, be a Sunday School teacher, chief steward in his church, president of the Christian Endeavor Society, and secretary of the local Veterans Cooperative Association. This veterans organization is primarily a farmers' purchasing and selling cooperative but operates also as a recreational and educational organization for young farmers and veterans in the community.

Julius Kennedy who won the Star Superior Farmer Award is 20, married, and lives with his parents. He graduated from high school in 1944, completing three years of all-day classes in vocational agriculture and one year in young farmer classes. He rents 29 acres of land from his father, owns 25 per cent of his father's 543-acre farm and in 1947 had a labor income of $2,230. His farming program included 12 acres of corn, seven acres of cotton, two acres of cane, five acres of hay, three dairy cows, three head of swine. He has had many NFA honors including Improved Farmer, 1941; Modern Farmer, 1944; State Superior Farmer, 1947. His record in community leadership, contributions, and farm home improvements is in keeping with the standards of the organization.

Leadership activities have included chairmanship of the NFA work committee, secretary of the local chapter, president of the local chapter, secretary of the state NFA, toastmaster at a Father-Son banquet, and chairman of the leadership training school. His community leadership has included being a Sunday School teacher, a Hi-Y leader, president of the local basketball team, chairman of the cooperative cannery purchasing committee.

Home improvements have figured prominently in Mr. Kennedy's program. He has a large garden, a 3-acre orchard, and an effective soil conservation and machinery repair program.

**J. E. MORGAN**
*District Coordinator, Distributive Education*
*Tennessee*

*Eating the food was part of the course in luncheonette training*

# "Meet You at the Fountain"

CONSUMERS from nearly every walk of life come into contact with store fountain and luncheonette services, in every community. This is a well-known phase of the distributive enterprise in America.

Many and justifiable have been the complaints about the type and amount of service received from workers in this field. The problem was not unknown to management, nor unrecognized, but seemingly insurmountable obstacles discouraged coming to actual grips with it. The tendency has been to try to explain away poor service by using some of the long overworked excuses for such personnel performance.

Realizing an opportunity to serve business, workers, and the public, and accepting the problem as a challenge to distribuitve education, an attempt was made in Tennessee to develop an answer. It took shape through a short, practical, intensive training program for fountain personnel which was focused upon the three basic phases of the problem—service, sanitation, and profits.

Suppliers gave helpful collaboration in preparing a series of experimental programs to determine the basic essentials necessary to properly train personnel to perform their work functions. A leader's guide was developed, and ultimately was published and distributed. Efforts in several centers in the state proved that it is desirable to cover the entire program in a single work week, in five two-hour sessions as a minimum, if the highest degree of effectiveness is realized.

Equipment necessary to provide a true on-the-job work situation (which is an absolute must if the training is to be at all effective) seemed an almost unsurmountable problem at first, because of the long hours that fountains are open to the public. Portable equipment was transported from place to place until management began to accept the fact that the training was efficient; then early closing in the evening or late opening in the morning, or both, made it possible to give the training under typical conditions.

When an entire community, or multiple establishments participated, the early closing or late opening was rotated from establishment to establishment thus dividing the load and at the same time permitting the trainees to utilize every possible type of equipment found in the various local enterprises.

Stripped to its fundamentals, this training requires leadership thoroughly familiar with every detail of the fountain and its operations. Little opportunity is afforded to lecture, since the training is closely geared to the demonstration technique of job instruction training. Every trainee must be able to perform every function in or about the fountain and understand the principles of good service and sanitation which customers expect and must have. To get the customer's "slant," one of the requirements of the program is that the trainee eat—in the presence of the entire group—each fountain delicacy prepared by him, rgardless of its looks, texture, or taste.

To stress the sanitation phase of the program, the cooperation of local health authorities was sought in the developmental stages of the program. Experience has shown, however, that generally it is much more effective to include all three phases of the work under one experienced leader without any division of instructional responsibility.

Visual aids are utilized whenever possible, to re-emphasize factors of the training.

The spontaneous and grateful response of customers in some localities has been most heartening. Many helpful suggestions based on local experiences have been offered by this group during the training sessions. Customer participation is provided where practicable in the final testing session in which, under the guidance of the leader, a select group of customers is invited to the meeting and served by the trainees. Thus the typical situation idea is further carried out. These customers then are present to see the certificates issued to those who have successfully completed the training program.

## House

*(Continued from page 10)*

laid, and the house actually started by the students. Work progressed so rapidly that the roofing was on before cold weather set in, and it was possible for the class to work on the inside throughout the winter except for the coldest days. Plans called for completion of the entire project by the last week of school, and at this time it appears the goal will be made.

"The house the boys built" has a living room 12'x24' with plate glass windows facing the front; a kitchen 9'x10' with modern equipment, conveniently located; a dining room 11'x12'; two bedrooms 10'x10' and 12'x15', and a bath. Space is available on the second floor for two additional rooms which the purchaser can finish according to his needs. The basement runs under the entire house and is to be completed by the class, with hot air heating installed. An oil burner which can be converted to natural gas has been selected.

Private contractors have done the excavating, plumbing, masonry work, electrical work, heating and plastering. This was not included in the course on carpentry. Students have observed all of this work, however, and have become familiar with the part it plays in the building of a home.

The original budget presented to the board of education gave costs as follows: excavation, 2 per cent; concrete, 5 per cent; carpentry and lumber, 50 per cent; brickwork, 1 per cent; roofing, 1½ per cent; sheet-metal, 1½ per cent; plastering, 9 per cent; plumbing, 8 per cent; heating, 8 per cent; electrical work, 3 per cent; tile, 2 per cent; hardware, 1½ per cent; and painting and decorating, 6½ per cent.

The total construction cost was figured as $6,800 since there was no expense for the students' work. It was therefore estimated that the project could be completed at no cost to the board of education. However, should the cost exceed the selling price, the board indicated that it would be charged off against the cost of instruction as in any other course.

Cape Girardeau has had the finest cooperation from the building trades labor groups and contractors. Many have visited the project and given aid and advice in construction details, and help in securing scarce materials and supplies. Residents have visited the project regularly to watch the progress students have made, and approval has been general.

To obtain the maximum educational values from this project, Supt. Schultz has planned to have the home economics and art classes participate in decorating the rooms, and in planning the furniture, and other features.

Consideration also is being given to asking local merchants to furnish the house for display purposes this spring, and open it to the public, at the time the house is advertised for sale. It might be possible to purchase the house either furnished or unfurnished, if this plan is carried through. There will be an additional public relations value for the school if this relationship between school and merchants is carried through, as well as the pleasure and benefit homemaking classes will have through their participation in the venture.

In view of the extreme shortage of trained labor in the field of carpentry, not only in Cape Girardeau but throughout the country, the school administration is receiving well-deserved credit for taking leadership in setting up a functional educational program for youth which meets a national situation.


INCLUDE THESE TEXTS IN YOUR NEXT REQUISITION

**Workbook in Mechanical Drawing**

*By Shriver L. Coover.* Projects and problems of everyday usefulness and interest, geared to actual needs of beginners and suitable for the school shop. Unit structure enables each student to progress at his own speed. Includes blueprint reading and much related information. $1.48.

**Carpentry for the Building Trades**

*By Elbert A. Lair.* Deals with all phases of carpentry for the building trades. Emphasizes tools and methods needed for the construction of small houses and residences. Easy-to-grasp, how-to-do-it approach. $1.80.

**Simplified Roof Framing—New Second Edition**

*By Wilson and Werner.* A carefully edited revision, bringing all material up to date and adding two new chapters on short-cut methods, the steel square and its use, and review of basic principles. $1.80.

**Home Guide to Repair, Upkeep, and Remodeling**

*By William H. Crouse.* Familiarizes the student with all the trades involved in building and maintaining a home, including carpentry, painting, plastering, electrical work, plumbing, and tile work. Down-to-earth presentation. Numerous illustrations. $3.00.

**Elements of Radio Servicing**

*By Marcus and Levy.* A how-to-do-it text dealing with all phases and problems of modern radio servicing. Stage-by-stage approach, analyzing the superheterodyne standard circuit. Problems cover 90% of modern servicing. $3.60.

**Essentials of Radio**

*By Slurzberg and Osterheld.* Explains principles of operation of vacuum tubes and their basic circuits and applications of circuits to low-frequency radio receivers. All recent advances. Requires only a minimum of mathematics. $4.00.

*Send for copies on approval*

**McGRAW-HILL BOOK CO., INC.**
330 West 42nd Street
New York 18, N. Y.

# New Equipment

**As a service to our readers we present this round-up of new equipment, materials, and catalogs of interest to vocational educators. For further information write to the AMERICAN VOCATIONAL JOURNAL, 220 E. 42nd St., New York 17, N. Y.**

**Duro Text Corp.** has a new germicidal unit that will destroy airborne bacteria in as little as eight seconds. It is useful for purifying air in schools, homes, poultry houses, barns, factories, etc. Used directly, it will destroy germs, molds, and fungus. The new germicidal lamps incorporated in these units will be produced in two lengths, 15 watt in 18 inches and 30 watt in 36 inches. A 30 watt lamp will give 99 per cent air purification.

**Griscombe Corp.** has an all-purpose, automatic microfilm machine which can reproduce single sheets, magazine articles, pages in bound volumes, sheets of correspondence stapled together, labels on bulky packages, etc. The operator needs only to place the material to be microfilmed on a glass window and touch a single button. Any material which can be placed on a 9¼ x 14" window can be microfilmed.


THE *Latest* INDUSTRIAL–TECHNICAL BOOKS

**Well-prepared instructional material provides an effective teaching tool for training in schools, industry and the home.**

Delmar Publications emphasize an effective **NEW** approach to the teaching - learning process through the development of instructional units which correlate basic related technical information (Why-to-do) with fundamental processes. Committees of experts from schools, industry and supervisory fields develop each new book.

Delmar Publications are widely used in the United States and Canada in apprentice training, day and evening private and public trade and technical schools, technical institutes—and are adaptable to industrial arts programs. The instructional units in each book may readily be adapted to an existing course of study because of complete coverage of subject or topic within each unit, clarity of presentation, and the correlation made possible with a **unit pattern.**

★ ★ ★ LIST OF LATEST PUBLICATIONS! ★ ★ ★

*"On Approval" copies will be sent on request.*

**TOOL DESIGN SERIES**
Jig and Fixture Design, 3 Vols. ..... $7.50

**RELATED SERIES—MACHINE TRADES**
Mathematics for Beginners ..... 1.75
Elementary Blue Print Reading ..... 1.15
Adv. Blue Print Reading, Vol. I .... 2.00
Adv. Blue Print Reading, Vol. II .. 2.00

**TEACHER'S MANUALS AND ANSWER BOOKS**
Elementary Blue Print Reading .... 2.00
Adv. Blue Print Read., Vols. I, II 2.50

**CARPENTRY SERIES**
Hand Tools and Port. Machinery .. 1.75
Concrete Form Construction ..... 1.50
Framing, Sheathing and Insulation .. 2.00
Interior and Exterior Trim ..... 2.25
Simplified Stair Layout ..... 1.50

**SHEET METAL SERIES**
Hand Processes .... 1.50
Machine Processes 1.25
Measurement and Layout ..... 1.50
Mathematics ..... 2.75
Job Sheet Series .... 2.00
Teacher's Manual .. 2.25

**AUTO MECHANICS**
Gen. Repair Tools.. 2.00
Basic Repair Operations .....In Press
Brake Work .....In Press

**MACHINE SHOP SERIES**
Measurement ..... 1.15
Bench Work ..... 1.20
Drill Press Work.... 1.00
Lathe Work ..... 1.75
Milling Mach. Work 2.50
Shaper Work ..... 2.75
Heat Treatment of Metals ..... 1.15
Job Sheet Series..... 1.15

**TEXTILE SERIES**
Fundamentals of Dressmaking ..... 4.25
Applied Science for Needle Trades .... 2.25
Mathematics for Needle Trades .... 2.00
Manufacture of Clothing ..... 2.25

**ELECTRICAL-RADIO SERIES**
Direct Current Fundamentals .... 1.75
Alternating Current Fundamentals ....In Press
Electrical Measurement ..... 1.15
Electrical Circuit Diagrams ..... 1.15
Fundamentals of Radio Receivers.. 2.50

**ADVANCED REFERENCE TEXTS**
Electric Motor Control ..... 2.00
Indust. Electronics..In Press
Cathode Ray Oscillograph in Indus. Electron. Circuits. 3.00

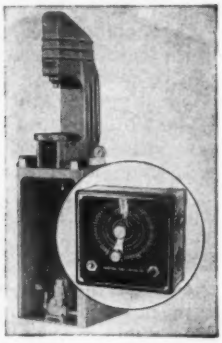
**INSTRUMENT TECHNOLOGY SERIES**
Fundamentals of Pressure and Temp. Instrum. .. 2.75
Instruments and Process Control .. 3.00

**TEACHER TRAINING SERIES**
Methods of Teach'g Indust'l Subjects 2.75
Teaching Related Information ..... 1.40

DELMAR PUBLISHERS INC
ALBANY 1 NEW YORK

WRITE DEPT. VJ-48 for (1) Examination copies (2) Free Descriptive Brochure (3) Discounts


**Air Hydraulics, Inc.** has a new timing device to be used on their hydraulic presses. The action is reverse under pressure, automatically completing the cycle of each ramstroke after delivering the full pre-determined pressure. Without the timing



device the operator must hold down the button until the downstroke is completed. Premature release meant application of less than the full predetermined pressure. The timing device eliminates this possibility for error.

**Henry J. Morton Associates** has a new idea in kitchen appliances, the Morton Singette which will singe duck, chicken, or turkeys, baste bacon and eggs, grill cheese sandwich, brown pies and casserole dishes, etc. It also is helpful for removing paint, for quick defrosting of refrigerator coils, and thawing frozen pipes.

**Technical Instruments, Inc.** has a new Arithmo Calculating Watch, made by Juvenia, for students, technicians, engineers, and anyone performing rapid calculations. It is equivalent to a straight six-inch slide rule and performs computations accurately. In addition to its usefulness, it is an attractive piece of jewelry.

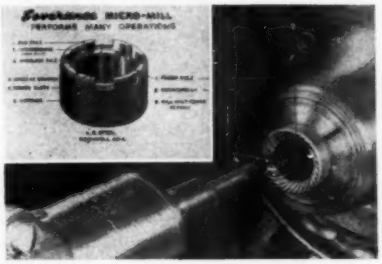
**Chicago Wheel & Mfg. Co.** has a new Handee electric eraser on the market. It is balanced and shaped to fit the hand and handles with pencil point precision. It weighs 12 ounces, and employs the same motor as is

used in the Handee tool of 1001 uses. All moving parts except the rubber eraser are completely covered by the protective sleeve. The quick-change eraser chuck takes any standard eraser. Sharp, keen erasings can be made with this new tool and neater work is assured at a saving of time. Optional equipment includes a foot speed control permitting freedom of

both hands in handling the eraser and control of speed in "on" and "off" position with the foot.

**Marion Electrical Instrument Co.** has a development which makes possible an evenly distributed and bright instrument dial. The new design, applicable on all 2½" and 3½" Marion round and square instruments, the 4½" rectangular instrument and the Model 52S tuning meter, utilizes a transparent lucite cavity which seals the opening against dust, controls the size of the bulbs and safeguards the movement.

**Severance Micro-Mills** are now made with their forward end relieved. This improvised design makes it possible to finish the bottom of blind holes or face shoulders and ends of

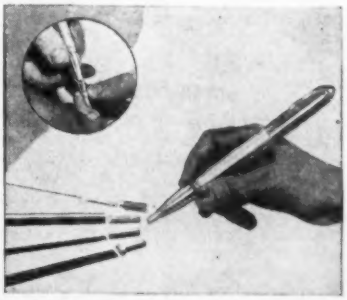


parts. Operations heretofore impossible or not practical to accomplish with grinding wheels are readily performed with these fast-cutting internal carbide mills.

**The Super Tool Co.** has a complete line of offset ejector tool holders added to its line. This new tool has the advantages in economy of the straight ejector tools and fill the demand for a tool holder that will hold an insert of solid carbide without clamping strains, and allow the chips freedom from interference with the clamping mechanism.

**Shopmaster line** of precision wood working tools had added a 6-inch ball-bearing jointer-planer. The rip fence of this new tool may be set and positively locked, at a wide variety of positions. The blade guard moves freely yet gives maximum protection. The specially designed head permits easy blade adjustment and holds the cutters accurately in place.

**Cushman and Denison Mfg. Co.** have a new automatic valve controlled pocket fountain brush for marking, drawing, and writing on any surface,



producing a very fine or broad line by use of a special adapter and four interchangeable hard felt nibs. It permits fine markings on small packages and labels and can be used on cellophane, metal foil, wax surfaces and fabrics.

**Victor Animatograph Corp.** has a dual speed record player, the Sonomaster, for the institutional market. It is housed in a leather-bound carrying case and features the new GE variable reluctance high-fidelity pick-up which is unaffected by changes in temperature and humidity. It is equipped with a natural sapphire stylus which is soft-spring mounted and operates with only one-ounce pressure. The pickup is notable for its clean response and elimination of most noise caused by roughness or scratches on the record surface.

**Allied Radio Corp.** announces its new 1948 catalog containing a listing of radio and electronic parts and equipment for school use.

Whether you are planning a new shop or remodeling, see it blue-printed first!

Sheldon engineers have years of experience in industrial arts and vocational shop planning. They are always ready to serve you . . . working closely with you to achieve the most economical and efficient set up.

Call on your Sheldon engineer — give him the basic information — and without cost to you he will plan your shop specifically to your school requirements.

***World's Largest Exclusive Manufacturers of Laboratory and Vocational Furniture.***

**E. H. Sheldon & COMPANY**

**MUSKEGON, MICHIGAN**

# HOW TO SELECT TEXTBOOKS

**MANY RATING DEVICES** have been developed for the selection of instructional material. But whether an objective scale is used or whether the selection is entirely subjective, it does *take time.*

**THAT IS WHY** we allow schools ample examination privileges. A thorough examination of an *American Tech-book* will disclose the great attention that has been given to detail. Practices that have been confusing to students are clarified; illustrations are carefully selected; latest developments in industry and education are included; and the most carefully tested mechanical and typographical features are used.

**ALL IN ALL** *American Tech-books* reflect our *50 years of constant progress* in publishing vocational books. Request examination copies today—take plenty of time to examine them. We are confident of your decision.

Please send me the books checked below on 30-days' examination. If any of these are adopted and 12 or more copies ordered, I will retain the adopted books as desk copies; otherwise, I will return them or remit, less the educational discount.

**BUILDING TRADES**

1. Fundamentals of Carpentry—Tools, Materials, Practice. Vol. I ... $3.25
2. Fundamentals of Carpentry—Practical Construction. Vol. II ... 4.25
3. Masonry Simplified—Tools, Materials, Practice. Vol. I ... 4.50
4. Masonry Simplified—Practical Construction. Vol. II ... 5.00
5. Building Trades Blueprint Reading Part I ... 2.25
   Part II ... 2.25
6. Simplified Architectural Drawing ... 5.00
7. Steel Square ... 2.25
8. How to Design and Install Plumbing ... 3.50

**ELECTRICAL TRADES**

9. Alternating-Current Motors ... $3.00
10. Direct-Current Motors and Generators ... 3.00
11. Electric Generators ... 2.75
12. Transformers ... 2.75
13. Interior Electric Wiring and Estimating ... 2.75
14. How to Read Electrical Blueprints ... 3.25

**MACHINE AND ALLIED TRADES**

15. Machine Shop Work ... $3.75
16. Machine Trades Blueprint Reading ... 2.25
17. Metallurgy ... 5.00
18. Tool Making ... 4.00
19. Sheet Metal Work ... 3.00
20. Pattern Making ... 2.25

**MISCELLANEOUS**

21. Practical Descriptive Geometry ... $3.50
22. Plastics ... 5.00
23. How to Read for Self-Improvement ... 2.75
24. Training High-School Youth for Employment ... 3.50

Name .....

School .....

School Address .....

**AMERICAN TECHNICAL SOCIETY**

Drexel at 58th St., Dept. W.311, Chicago 37, Ill.

### Agriculture

*Grain Crops*, by Harold Kirby Wilson. McGraw-Hill Book Co., New York, N. Y., 1948. 384 pages, $1.80.

An introductory text in agronomy presenting information on the production of all principal grain crops grown in the U. S.

*Using and Managing Soils*, by A. F. Gustafson. McGraw-Hill Book Co., New York, N. Y., 1948. 420 pages, $2.80.

Emphasis is on the practical use and management of all kinds of soils, with "what to do" and "how to do it" explained.

### Homemaking

*Young Folks At Home*, by Florence La Ganke Harris, and Treva E. Kaufmann. D. C. Heath & Co., Boston, Mass., 1948. 444 pages, $2.60.

The book is designed for junior high school students, and tells how to become an attractive, happy person useful in the home circle.

### General

*How to Sell Yourself to Others*, by Elmer Wheeler. Prentice-Hall, Inc., New York, N. Y., 1948. 302 pages, $3.50.

A guide to help people make the best use of their own talents and abilities, and "sell" them.

### Industrial

*Job Education*, by Jay L. Otis and Richard H. Luekart. Prentice-Hall, Inc., New York, N. Y., 1948. 473 pages, $6.65.

This is an organized presentation of the essentials of wage and salary administration based on job evaluation.

*Elements of Radio*, by A. Marcus and William Marcus. Prentice-Hall, Inc., New York, N. Y., 1948. 751 pages, $4.00.

This book first appeared five years ago. The new volume brings the original material up to date, and adds much additional material.

*Practical Sign Painting*, by Robert E. Owen. The Bruce Publishing Co., Milwaukee, Wis., 1948. 143 pages, $3.00.

The book covers every practical and theoretical phase of sign painting, is comprehensive, well illustrated, and easy to read.

*Broadcast Operators Handbook*, by Harold E. Ennes. John F. Rider, Publisher, Inc., New York, N. Y., 1948. 288 pages, $3.30.

The first four parts of the book cover the operating practice in control rooms, the master control, remote control, and the transmitter. The fifth and sixth parts discuss technical data.

*FM Transmission and Reception*, by John F. Rider and Seymour D. Uslan. John F. Rider, Publisher, Inc., New York, N. Y., 1948. 416 pages, cloth, $2.70; paper, $1.80.

The book is divided into two parts, the transmission of the FM signal in the first and the reception in the second. The latest in transmitting antennas is discussed.

*Electronics for Radio Men and Electricians.* The Coyne Electrical School, Inc., Chicago, Ill., 1948. 468 pages.

The book describes the different kinds of tubes, their applications, servicing, testing, and trouble shooting. It is well illustrated.

*Work Routing, Scheduling, and Dispatching in Production*, by John Younger and Joseph Geschelin. The Ronald Press, New York, N. Y., 1948. 168 pages, $3.50.

The main purpose of the book is to help get a job under way smoothly and on time, carried through the proper channels of operation, and closed out on schedule.

*Preparing for Federal Radio Operator Examinations*, by Arnold Shostak. Prentice-Hall, Inc., New York 11, N. Y., 1948. 404 pages, $3.75.

Questions in the book make up Federal examinations for operators of radiotelegraph and radiotelephone.

### Business

*College Typing, Pattern-Learning Method*, by Esta Ross Stuart, D. C. Heath & Co., Boston, Mass., 1948. 182 pages, $3.50.

The book is prepared for college students and includes an up-to-date bibliography of visual and audio visual aids.

### Industrial Arts

*The Hobby Market*, by Richard S. Robbins. Hobby Youth Associates, 1133 Broadway, New York 10, N. Y., 1948. $10.00.

The book includes hobbies for youth as well as adults, and demonstrates their value socially and to industry.

### PAPER COVERS

*Occupational Briefs: Record and Radio Shop Workers*, No. 230; *Magnesium Industry Workers*, No. 231; *Film Industry Workers*, No. 232; *Kindergarten and Pre-School Teachers*, No. 233; *Magazine Publishing Workers*, No. 234; *Boxers and Wrestlers*, No. 235; *Soap Industry Workers*, No. 236; *Producer Cooperative Workers*, No. 237; *Market Research Workers*, No. 238; *Ceramic Engineers and Artists*, No. 239. Science Research Associates, Chicago, Ill.

*Shop Safety*, prepared by the industrial arts department and the division of safety education of the Cleveland Public Schools. Greater Cleveland Safety Council, Cleveland 15, O., 1948. 27 pages, 75¢ single copy, less if purchased in quantity.

*Designer's Guide for Welded Construction.* Lincoln Electric Co., Cleveland 1, O., 1948. Can be placed under a desk glass or thumb-tacked on a drawing board.

*Fundamentals of Salesmanship*, Volumes I and II. Business Education Publications No. 34. California State Department of Education, Bureau of Business Education, Sacramento, Calif.

*Your Future Is What You Make It.* National Manufacturers Association, 14 W. 49th St., New York 20, N. Y.

## Oregon FFA Buys Equipment

The first Future Farmers of America chapter in Oregon to operate its own farm and acquire its own farming equipment is the Canby Union High School FFA. This chapter has purchased two new tractors, the fourth and fifth owned by the chapter since 1940.

Equipment now owned by the chapter represents an investment of $7,549.05. It is rented to individual members for use in farming home or rented land, for vocational agriculture projects, and is also used on the school's 20-acre farm which has been in operation since 1939.

Seventy-two young men are enrolled in vocational agriculture at Canby Union High School, under the direction of George A. Pope, who also is FFA advisor. The chapter has been in operation since 1937.

Pictured with the new tractors in front of the FFA machinery shed on the Canby Union High School grounds are the president of the Canby Chamber of Commerce, Rex Eversole; Clarence Hagenauer, the dealer; A. L. Beck, superintendent of Canby schools; Sen. Howard C. Belton, Canby farmer and chairman of the high school board of directors; Willis Lay, FFA chapter treasurer, who is making out the check for full payment of the tractors; G. A. Pope, FFA advisor, and L. L. Gaiser, a dealer.

## Customer Relationships In A Beauty Salon

Proper relationships between employee and customer was the theme of a two-week course, Customer Service in Beauty Salons, given for the employees of the Fair Beauty Salon of Fort Worth, Texas, last fall. The training was offered through the distributive education program of the extension division of the University of Texas, cooperating with the Fort Worth public schools.

The spirit within an organization is probably the greatest factor in building good will with customers. Such a spirit means loyalty to the manager and a desire to further the good reputation of the salon. Such loyalty can be realized only when the manager is a leader and not a driver. The manager must have a sense of justice both for the stylist and for the customer, and must be sure that each is fairly dealt with if there is a conflict of interest. The personnel of the salon must put good work and general welfare of the shop above personal gain or individual advantage or acclaim. Unless such a spirit prevails, jealousies and bickerings will come into the open and seep into the consciousness of the patrons—to the detriment of the salon and each individual in it.

The course stressed also the importance of courtesy to customers in addition to efficient work, to create *super* good will. Every individual is appreciative of personal attention. The managerial staff of a salon has a most important task to perform in giving sincere attention to the customer, not only in making appointments but also during the time she is in the salon, and when leaving. Lavish praise is not a good substitute for, and will not supplant, sincere personal attention. The stylist should at all times remember "the customer is always right."

Good appearance and neatness adds much to good customer relationships.

The customers will doubt the ability of the beautician to do for them what she cannot do for herself.

Briefly, the course taught that it is management's job to get the customer into the salon and to the stylist in a good frame of mind. The stylist must satisfy the customer through good service in a pleasant atmosphere, and send her away an ambassador of good will.—*Mrs. Ann Steffens, Manager, The Fair Beauty Salon, Fort Worth, Texas.*

**Canby, Oregon, F.F.A. treasurer writing the check to pay for two new tractors**

1948 Books!

**ELEMENTARY INDUSTRIAL ELECTRONICS**

*Wellman*

A real beginning book written directly to students and workers. Minimum of mathematics.

**SWOOPE'S LESSONS IN PRACTICAL ELECTRICITY**

Revised by *Hausmann*

18th Edition reset, rearranged, and brought up to the minute.

**TELEVISION SIMPLIFIED**

*Kiver*

2d edition of a basic television text really "simplified" for beginners. New review questions.

**TELEVISION AND F-M RECEIVER SERVICING**

*Kiver*

Coming this spring. Directions for repairing common troubles in FM and television receivers.

•

**BRAND NEW CRAFTS BOOKS**

**Handmade Jewelry—*Wiener***

**Metal Art Crafts—*Miller***

**Graphic Arts Crafts—*Kauffmann***

•

**1947 HEADLINERS**

**Elementary Radio Servicing—*Wellman***

**FM Simplified—*Kiver***

**Essentials of Strength of Materials—*Pisani***

**Mathematics of the Shops (2d Ed.)—*McMackin & Shaver***

**Leathercraft—*Thompson***

**Woodworking—*Van Tassel***

Van Nostrand

**250 FOURTH AVENUE. NEW YORK 3**

# Projectors for the "Magic Lantern"

**WILLIAM J. TEMPLE**
*Brooklyn College Audio Visual Committee*
*Brooklyn, New York*

The "magic lantern" is still with us, still useful, and better than ever. The pictures are brighter and sharper because of coated lenses and improved optical systems. The projectors are less bulky, simpler, and (some of them) cool enough to touch while in use. They perform wonders. They will project 35mm slide films or the 2 x 2 color slides you make on your summer vacation trip. Or glass slides.

Newest opaque projectors will put a map or entire page from a magazine or book or a postcard or student theme on the classroom screen. Some will throw pictures back over your head while you face the class. With translucent projectors what you draw with a grease crayon is instantaneously magnified on the screen.

Some projectors are designed for one type of projection material. Others will handle two or more types. The summary which follows is representative rather than comprehensive. It is based on descriptive material.

**IT'S NEW...ALL NEW!**

*Teacher Training Film*
*2 reels 16mm. sound*

**Tools & Techniques of Counseling**

**Authors:**

C. E. Erickson Raymond N. Hatch
Carl Horn Edgar L. Harden
Michigan State College

**This is the film for which all counselor teacher trainers have been looking. The film is designed to bring out the more important guide posts of counseling and to demonstrate good counseling in action.**

**The setting is in a high school. The interview is recorded, then reviewed and analyzed as the film proceeds.**

**Teacher and counselor trainers will find this film of tremendous value in developing their program.**

*For Rental or Purchase*

**VOCATIONAL GUIDANCE FILMS, INC.**

*International Distribution by*

**Carl F. Mahnke Productions**
*DES MOINES 10, IOWA*

### 2 x 2 Slide Projectors

The Scientific Instrument Division (Buffalo 15, N. Y.) of the American Optical Co. makes Spencer Delineascopes for 2" x 2" slides, comes in 150,- 200,- and 300-watt models. All surfaces of the optical system surfaces are coated; the lens is acromatic for true color rendition. A new slide carrier makes refocusing unnecessary whether glass,- cardboard-, or metal-mounted slides are used. All models keep cool enough to handle; the 300-watt model is blower-cooled.

Ampro Model 30A (Ampro Corp., 2835 N. Western Ave., Chicago 18, Ill.) is a 300-watt projector with a patented slide carrier which permits interchange of glass- or cardboard-mounted slides without refocusing. One-hand operation; pointer aperture permits the operator to point to details on the slide without going to the screen. Bauch & Lomb Co. has a 2" x 2" slide projector, 150-watt lamp; 5" lens, $58. (See Opaque Projectors.)

Remarkably compact is the Eastman Kodak Co. (Rochester, N. Y.) Master Model Kodaslide Projector, suitable for large classrooms and even auditorium use. Uses lamps from 500 to 1,000 watts. Has blower and heat resisting glass between light and slide. Wide lens choice from 5", $181, to 11", $295. For home or small group use. Eastman has Model 2-A, 150-watt lamp, 5" or 7½" lens, no blower, $47.50; Model 1-A, 75 to 100 watts, 4" lens. $27.50.

Filmo Duo-Master ($130) (Bell & Howell Co., 7100 McCormick Rd., Chicago 45, Ill.) has a 300-watt lamp and a coated lens. Never gets too hot to touch; slide may be left in place indefinitely. Has pointer aperture. Filmo Slide Master ($285) takes 500-, 750-, or 1,000-watt lamps, motor-driven fan. Lamp cannot be turned on unless fan is running. Choice of lenses. Rack-and-pinion focusing, like a fine microscope.

SVE Model AK ($62.90) (Society for Visual Education, 100 E. Ohio St., Chicago 11, Ill.) is 2" x 2" version of this widely-known projector. Coated lens: 300-watt lamp. Vertical slide changer. Carrying case included.

Viewlex Model AP-1 ($64.50) (Viewlex, Inc., 35-01 Queens Blvd., Long Island City 1, N. Y.) is a complete, portable projection outfit with a small screen built into the carrying case for desk use. Translucent screen permits teacher to operate the projector from her seat behind the desk while students view the projected image through the screen. The 2" lens gives a large image at a short distance. The 150-watt lamp gives enough brilliance for viewing a normally lighted room because of aspheric condensers in the optical system. The Viewlex Model AP-2 ($54.50) is a conventional 2" x 2" projector with a 5" coated lens system and aspheric condensers. Model AP-3 ($39.50) has a 5" anastigmat lens.

Three Dimensions Sales Co. (4555 W. Addison St., Chicago 41, Ill.) makes the "Vivid" series of 2" x 2" projectors with 5" lenses, heat filters, and pointer apertures. Model B ($39.50) 150-watts, may be converted to Model C ($49.50), 300-watts. Addition of a cooling fan converts Model C to Model D ($62.20).

Ampro Model 30D provides means for changing from 2" x 2" slide projection to filmstrip projection quickly. Curved film guideways permit easy threading. Filmstrips can be run forward or backward without buckling or jamming.

Argus Model PA ($27.75) (Ann Arbor, Mich.) will project 2" x 2" slides and single- or double-frame filmstrips; 100-watt lamp, coated 4" lens with heat-absorbing glass to protect slides and films. Slide carrier is rotary. Filmstrip holder ($3.95 additional) has a capacity of 8 ft. (64 double frames).

The new RCA Victor slidefilm projector (Radio Corp. of America, RCA Victor Div., Camden, N. J.) uses neoprene rollers instead of sprockets so that the filmstrip cannot possibly be punctured or torn. The 150-watt lamp is efficiently cooled; a frame may be left in place as long as 30 minutes. Film carrier is detached for convenience in loading. The slide carrier is also detachable. All lens surfaces are coated.

SVE Model AAA ($80; 300-watts) and Model DD ($68.50; 150-watts) are both tri-purpose projectors. They will handle single-and-double-frame filmstrips and 2" x 2" slides. Recessed film magazines and guides prevent abrasion of films. Strips are automatically rewound as projected. Lenses are coated. Ventilation and filters project slides and films. Convenient, one-hand operation for strips

**BELL & HOWELL**

# *Filmosound*

## Superior by every test

Where school systems have made thorough comparative tests, the findings, by an overwhelming majority, have shown that Filmosound is the finest 16mm sound film projector for school service.

Before you invest, learn how Filmosound motion picture projectors have repeatedly proved their superiority in those qualities that your ultimate choice of equipment *must* have to make your audio-visual program fully successful . . . to give your overburdened teachers the maximum assistance they need so much today.

A note to us will put you in touch with the B&H Special Representative near you. He will gladly give you the interesting, highly significant facts. Bell & Howell Company, 7170 McCormick Road, Chicago 45. Branches in New York, Hollywood, Washington, D. C., and London.

**You'll find FILMOSOUND superior in these vital respects:**

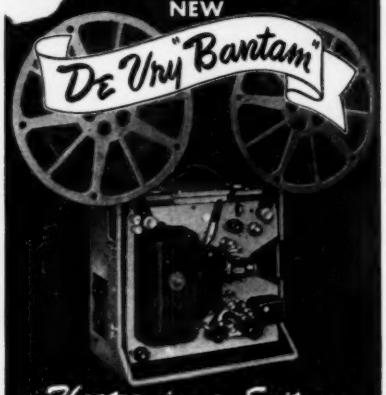
1. Picture quality.
2. Sound quality.
3. Easy, mistake-proof operation.
4. Protection of film against scratching, breaking, and heat damage.
5. Efficient lubrication of all moving parts.
6. Ease of replacing lamp, tubes, and belts.
7. Ease of cleaning all optical system parts.
8. Provisions for using such accessories as microphone, record player, and extra speakers.

Precision-Made by

**Bell & Howell**

Since 1907 the Largest Manufacturer of Motion Picture Equipment for Industry and the Home

THE LIGHTER-WEIGHT PROJECTOR YOU WANT!
NEW
DeVry "Bantam"



*Theatre-in-a-Suitcase*

16mm. SOUND PROJECTOR, AMPLIFIER, SPEAKER AND SCREEN . . . ALL-IN-ONE SMALL, COMPACT CASE WEIGHING LESS THAN 31 lbs.

Today's Greatest Value at ONLY $325.00

Highest quality 16mm. sound projector in the lowest price field — the DeVry "BANTAM" is a truly champion performer. Brilliant 750-1000 watt illumination, thrilling life-like sound! See it and be convinced!

HERE'S WHAT YOU GET WITH A DeVry "Bantam"

Built-in, detachable 6" ALNICO 5 permanent magnet speaker . . . 2000 ft. film capacity . . . Coated optical elements . . . Light out-put exceeds 200 lumens . . Motor-driven rewind . Automatic loop setter . . Rotating sound drum . Simplest film threading . . Absolute film protection . . Forced air cooling . AC or DC operation.

DUAL CASE "BANTAM"

Gives you projector and amplifier in one case, 8" ALNICO 5 permanent magnet speaker in matching case.

DeVry "Bantam" has adequate illumination (750-1000 watt) for auditorium projection.

DeVRY CORPORATION AVJ-E4
1111 Armitage Avenue
Chicago 14, Illinois
Please send complete details on the DeVry "Bantam".

Name_____

Address_____

City_____ State_____

Only 5 Times Winner of Army-Navy "E" Award for Motion Picture Sound Equipment

DeVRY

1111 ARMITAGE AVENUE, CHICAGO 14, ILL.

and slides. Both have carrying cases; Model DD, smaller and lighter, is recommended for classroom use.

Viewlex Model AP-1C ($77) and Model AP-2C ($67) are the combination counterparts of Models AP-1 and AP-2 described above. They are guaranteed not to tear filmstrips. Strips can be loaded and threaded for projection in five seconds.

#### Sound Filmstrip Projectors

Sound filmstrips are filmstrips with explanatory lectures recorded on phonograph discs. Clicks or bell tones tell the operator when to advance the film to the next frame. Such records may be played on any transcription record player. Operadio Mfg. Co. (St. Charles, Ill.) makes the "Explainette," a convenient combination of a filmstrip projector with a dual-speed record-player for discs up to 16" in diameter. Explainette "100" has 100-watt projector, two-tube amplifier with turntable and loudspeaker built into a self-contained unit with an 8½" x 11" screen for small audiences. The Explainette "300" has 8-watt amplifier, 8" speaker. The "Educator" has a 12-watt amplifier. Without projectors, at $120 and $146 respectively. With your choice of SVE Model G or SVE Model AAA (see above) at prices ranging up to $219.

#### Combination Projectors

Golde Mfg. Co. (1220 W. Madison St. Chicago 7, Ill.) makes an all-purpose projector which can be built up of basic units bought separately. Projector A is blower-cooled, with lamps from 300 to 1,000 watts, for slides from 2¼" x 2¼" to 3¼" x 4". Additional units convert it to Projector B which will accommodate 2" x 2" slides as well as the others.

#### Opaque Projectors

Charles Beseler & Co. (243 E. 23rd St., New York 10, N. Y.) makes standard size slide projectors, opaque projectors, and combinations ranging in price from $29.50 (Model O, opaque only, 5" x 5") to $250 (Model OA3, opaque only, full-page, 8½" x 11".) Model OA2 (opaque 6¼" x 6¼" and 3¼" x 4" slide, with fan cooling) is $140. Adaptor for 2" x 2" slides and filmstrips, $38.50 additional. For use where electricity is not available, Beseler No. 1450 ($86) has a Coleman mantle lamp which burns kerosene or gasoline.

Bausch & Lomb Optical Co. (Rochester, N. Y.) makes a broad range of Baloptican opaque projectors, also slide projectors. Model ERM has blower system, 500-watt lamp, 14" focus lens. Objects up to 6" x 6⅜", $155. Model LRM, $205, adds slide equipment and another lens. For other types see catalog.

American Optical Co., Scientific Instrument Div., produces Delineascope Model V; 500-watt, 16" or 18" lens, cooling fan, $115. Projects objects 6" x 6". Models VA and VAC add equipment and lens for glass slides and film slides.

Pictograph is a small, opaque projector for short throws made by Keystone Mfg. Co. (151 Hallet St., Boston, Mass.); 140-watt bulb, $25. Takes postcards.

**Major Gregg Texts in**

**• Retailing • Textiles**

**• Consumer Education**

**Retailing, Principles and Practices, Second Edition, by Richert.** New, enlarged, modern in every respect. Deals with every major phase of retail store operation.

**The Consumer's Economic Life, by Graham and Jones.** Presents practical common-sense principles for managing money and buying and using goods and services.

**Fiber to Fabric, by Potter.** Tells the story of textiles from fiber to fabric. Simplified presentation; illustrated.

*A kit of swatches representing more than 60 standard fabrics, individually labeled, is available through the author of Fiber to Fabric for the price of $2 postpaid. Orders for the kit should be addressed to The Swatch Box, 1221 W. 23rd Street, Cedar Falls, Iowa.*

***Write our nearest office for information about these texts.***

**The Gregg Publishing Company**

New York 16 Chicago 3 San Francisco 2
Boston 16 Dallas 1 Toronto 5 London, W.C. 1

*All text needs for the printing student*

JUNIOR PRINTING

**PRACTICE of PRINTING**

*Ralph W. Polk*

Modernized with new illustrations, new samples of layouts and displays with all the high qualities of the famous earlier editions. Covers the whole practice of the subject for school conditions with emphasis on composition and typographic effects. $2.25.

**ELEMENTARY PRINTING JOB SHEETS—*Polk***
Wide selling junior high jobs based on the main text. Loose-leaf. 86 cents

**ELEMENTARY PLATEN PRESSWORK—*Polk***
Covers all basic functions in presswork problems—ink, paper, form makeup, methods and procedures for various types of machines, safety precautions, operations involving special forms, make ready, etc. $2.00

**JUNIOR PRINTING—*Lush***
Modern textbook-workbook covering all phases of junior high or graphic arts shop. Closely knit information and problems with fine illustrations. 76 cents

**ARITHMETIC FOR PRINTERS—*Aublo***
Every problem applied to actual school shop conditions and from the printers point of view. Emphasis on the most frequent types of calculations. Teachers key at no charge. $2.00

**THE MANUAL ARTS PRESS**
377 Durac Bldg. Peoria 3, Illinois

# With the Associations

★ The trade and industrial and distributive sectional meeting in Mississippi was held in conjunction with the Mississippi Educational Association convention on March 19, in Jackson. W. L. Newton, director of vocational education, Ross Collins Vocational School, Meridian, Miss., was chairman. Among the speakers were H. E. Mauldin, Jr., state director of vocational education; D. W. Aiken, teacher trainer, Mississippi State College; Eleanor Zeis, state supervisor of occupational information and guidance; E. A. Parker, acting state supervisor of trade and industrial education; Herbert Shaddix, state supervisor of distributive education; and T. B. Payne, chief of vocational rehabilitation and education division for the regional office of the Veterans Administration.

★ Officers of the Oklahoma Industrial Arts Association for 1947-48 are: President, Asbury Smith, Central State College, Edmond; vice-president, B. F. Ferguson, Northeastern State College, Tahlequah; secretary-treasurer, John B. Tate, Department of Industrial Arts Education and Engineering Shopwork, Oklahoma A & M College, Stillwater; Member of board of directors, Green Gilmour, High School, Kingfisher; and Myrl S. Kirk, High School, Enid. The first annual dinner meeting of the O.I.A.A. was held during the O.E.A. convention February 12, in Tulsa.

★ Lewis B. Robertson is president of the Massachusetts Vocational Association for 1947-48. He has been head of the agricultural department of Lawrence High School at Falmouth since 1924, where he has given his services and agricultural experience to agricultural associations and to the community at large. His follow-up service to former students has been especially commendable. Mr. Robertson gave a thorough report of the Los Angeles AVA convention of the MVA, upon his return from the coast.

## Brazilian Educators At Penn State

Eleven directors of Brazilian vocational schools are at Penn State, State College, Pa., and are enrolled in an intensive training program in the Department of Industrial Education.

The group will be at the college for four months, concluding their program May 26. They are taking a series of nine intensive courses: Philosophy of vocational education, trade analysis, organization and planning of courses, methods of teaching industrial subjects, shop organization and management, administration of vocational education, survey methods, supervision of vocational education, and seminar in vocational education.

This is the second group of directors of Brazilian vocational schools to be enrolled at Penn State, the first group having completed its intensive program on December 5, 1947.

★ Jack Newton, Moultrie, Ga., is the newly elected president of the Georgia Future Farmers of America. Joe Turner, Powder Springs, is first vice-president; Richard Youngblood, Augusta, second vice-president; James Biles, Valdosta, third vice-president; Dan Orr, Baldwin, secretary; Owen Davis, Franklin, treasurer; and Darrell Holiday, Rentz, reporter.

★ New York State Vocational and Practical Arts Association met in Buffalo at the Hotel Statler March 30, 31, and April 1. General sessions were held Tuesday and Wednesday mornings, the annual banquet Wednesday evening, and the business meeting Thursday morning. The Ship program was part of the banquet entertainment. Members of the Buffalo convention committee were Dr. Robert T. Bapst, Dr. Francis H. Wing, Earl Boggan, William Kamprath, Stewart F. Ball, R. A. Prosser, G. B. Leighbody, Robert S. Hoole, William J. Regan, R. A. Regan, Martin H. Kuehn, Francis A. Collins, Richard Dry, Ethel M. Coan, Stewart F. Ball, John Collins, Bernard Shilt, A. Morgan, Ward Stewart, Irving Perkins, L. H. Engel, Jessie Peck Hodgkins, S. Ledeaux, Edward T. Welsh, Lawrence Spring, John C. Heinike, William Breach, Wm. J. Regan, and M. B. Galbreath, president of the association last year.

★ The 10th annual New York Industrial Arts Spring Conference will be held at Oswego State Teachers College April 29 and 30. Between 300 and 400 teachers, principals, and superintendents are expected. Gordon O. Wilber, director of the industrial arts department, and Arthur Hauler, supervisor, are in charge of program details.

The main speaker will be Dr. Lee Hornbake, professor of industrial arts education at the University of Maryland who will appear at the opening session and at the banquet sponsored by Epsilon Pi Tau. Dr. Hornbake is a former teacher at Oswego, and his program at the University of Maryland is now outstanding.

The Thursday morning program will include a panel discussion on "The Fifth Year and the Master's Degree at Oswego," and a summary of industrial arts in New York State by Roy G. Fales, state supervisor of industrial arts.

Shop and laboratory demonstrations will be given Thursday and Friday afternoons, by students of the college. Some commercial demonstrations are also anticipated, including one on low temperature welding by Thomas Berry of the Allstate Welding Alloys Co.

John L. Miller, superintendent of schools at Great Neck, Long Island, and Harold O. Carlton, educational consultant for the American Automobile Association, will appear on the Friday morning program. Fred Finsterbach of Buffalo State Teachers College will talk on "The Use of Color Dynamics in the School Shop" at the Friday noon luncheon.


## Products and Services Guide

**To obtain free literature, samples of goods, and information about the products advertised in this issue, check the items desired and mail this master coupon directly to the AMERICAN VOCATIONAL JOURNAL, 220 E. 42nd St., New York 17, N. Y.**

**ALUMINUM CO. OF AMERICA (p. 3)**
☐ New teaching aids catalog

**DELMAR PUBLISHERS, INC. (p. 22)**
☐ List of publications

**INTERNATIONAL HARVESTER CO. (p. 32)**
☐ Free booklet, "Lets Practice Soil Conservation"

**AMERICAN TECHNICAL SOCIETY (p. 24)**
☐ Free examination of new books

**DELTA MANUFACTURING DIVISION (p. 31)**
☐ Free bulletin about wood cutting band saw

**J. C. LARSON CO. (p. 30)**
☐ Free catalog on leather goods for homecraft or school purposes

**BELL & HOWELL CO. (p. 27)**
☐ Information on Filmosound

**DEVRY CORP. (p. 28)**
☐ Details on the "Bantam"

**THE MACMILLAN CO. (p. 5)**
☐ New vocational and industrial arts texts

**COLORADO A & M COLLEGE (p. 30)**
☐ Information about the Summer Session

**GREGG PUBLISHING CO. (p. 28)**
☐ New books and kit of swatches

**THE MANUAL ARTS PRESS (p. 28)**
☐ New books on printing

**SEE PAGE 30 FOR OTHER LISTINGS AND FORM FOR SIGNATURE**

# Who's Who

**Van C. Whittemore,** who has been director of the State Agricultural & Technical Institute at Canton, N.Y., for 25 years, has resigned. W. T. Long, head of the agricultural division of the school has been appointed acting director.

**T. L. Faulkner** has been named executive secretary of the Alabama Association of Future Farmers of America, succeeding **C. C. Scarborough,** who is associate professor of agricultural education at Alabama Polytechnic Institute. For the past six years Mr. Faulkner has been assistant supervisor of agricultural education in southwest Alabama.

**Hemp Hoff** has accepted an appointment as professor of distributive occupations for New York state and will be assigned to the New York City office of the State Education Department. He was formerly teacher trainer of distributive education, University of Georgia.

**I. John Krepick** has accepted a position as director of business education for the Richmond Division of the University of Virginia. He was formerly an instructor in Goshen High School, New York.

**Howard W. Green,** formerly an instructor of vocational agriculture at Lee County High School, Alabama, has been appointed district supervisor of agricultural education in the Southwest District of Alabama.

**Jessie Winchell Tickell** has resigned as supervisor of home economics education at Rochester after many years in that capacity.

**Mrs. Will Frances Sanders,** state FHA advisor in North Carolina, resigned to accept a position with the Raleigh Public Schools. Mr. Sanders is principal of the Hugh Morson High School.

**Anna M. Dooley** has been appointed director of home economics, New York City Board of Education. She was previously city supervisor in Newark, New Jersey.

**Flora Thurston** of the teacher education staff in home economics education, Cornell University, Ithaca, New York, has retired.

**Ruth Stovall** has been appointed associate supervisor of home economics education in Alabama. She will supervise the vocational departments in the Southwest District. She has been a teacher in the Alabama schools recently.

**Arnold H. Lamont** and **Stanley S. Zamory** have been appointed supervisors of junior aviation in the New York State Department of Education.

**Thomas Handley,** director of vocational education and industrial arts in Oswego, has retired. His position is being filled by **Thomas Crabtree.**

**Francis Lynch,** formerly of Whitney Point, N. Y., has been appointed head of the industrial arts department at Reno, Nevada.

**Robert McDowell** has been appointed assistant state supervisor of trade and industrial education in West Virginia, where he is devoting considerable attention to developing a program of industrial arts. Before going into the armed services he was an industrial arts teacher in the New York state schools.

**Dr. Lewis V. Newkirk,** who accepted an appointment with the U. S. Office of Education as specialist in industrial arts, has returned to his position as director of the Bureau of Industrial Arts, Chicago Public Schools. The difficult housing situation in Washington compelled his decision.

**Herman Goodyear,** who has been in Korea for a year with the Federal government, has returned to his position as an industrial arts teacher at Port Chester, N. Y.

# In Tribute

**George Stoddard,** a teacher of agriculture at East Aurora, N.Y., since his graduation from college in 1922, died in East Aurora November 19. During his 25 year teaching career he had served on many important committees, and was a member of the Regents Comprehensive Examination in Agriculture Committee. He had served as secretary, vice-president, and president of the New York Agricultural Teachers Association, 1940-1941.

**Stephen N. Dimit,** who has been a teacher of auto mechanics at the Brooklyn High School of Automotive Trades for the past seven years, died at his home in Brooklyn, N.Y.

**Roy Green,** president of Colorado A & M College, died January 22, following an operation. He had pioneered in agricultural education and made a notable study of wheat crop insurance for farmers.

## Products and Services Guide—Continued

**McGRAW-HILL BOOK CO., INC. (p. 21)**
☐ New vocational and industrial arts texts

**SLIDECRAFT (p. 30)**
☐ Information on making slides

**SWIFT & CO. (pp. 16 & 17)**
☐ Write to Research Dept. for help with agricultural problems

**D. VAN NOSTRAND (p. 25)**
☐ New 1948 books

**E. H. SHELDON & CO (p. 23)**
☐ Help in planning shops for school purposes

**SOUTH BEND LATHE WORKS (2nd Cover)**
☐ Free teaching helps for shop classes

**VOCATIONAL GUIDANCE FILMS (p. 26)**
☐ New film on counseling

**AMERICAN VOCATIONAL JOURNAL**
**220 E. 42nd St., New York 17, N. Y.**

**Please send me information concerning the products checked on this coupon.**

**Name**_____ **Title**_____

M-48

**School**_____ **City**_____ **State**_____


*Prompt Shipments from a Complete Stock of*

**LARSON LEATHER**

**When you think of leather—think of Larson Leathercraft Headquarters. Wide variety of cut-out projects. Moderate priced tooling leathers as well as top quality calfskins.**

**We supply all tools, materials and instructions for making:**

| | |
|---|---|
| **Gloves** | **Billfolds** |
| **Link Belts** | **Coin Purses** |
| **Pyrostrips** | **Comb Cases** |
| **Moccasins** | **Key Cases** |

**Woolskin Toys and Mittens**

**Many Other Useful Items**

Send for FREE catalog

**J. C. LARSON COMPANY**

Dept. B—820 S. Tripp Ave.
Chicago 24, Ill.

**COLORADO A & M COLLEGE**
**Fort Collins, Colorado**

*"Practical education at a mile-high level."* Two 4-week periods, beginning JUNE 21 and JULY 19, of an expanded program of Agricultural Education, Distributive Education, Guidance and Counseling, Home Economics, Home Economics Education, Industrial Arts Education, Physical Education for Men, Trade and Industrial Education at both the graduate and undergraduate level.

*New* Now you can enjoy famous Delta quality in a machine for teaching heavy-duty operating technique!

# Delta* 20" Wood-cutting Band Saw

***Takes any type of blade in any size up to 1 inch in width. Maximum height under upper guide is 13½"***

Because it's engineered for safety, accuracy, and convenience, the new, low priced Delta 20" Wood-cutting Band Saw is a practical tool for woodworking instruction purposes. And it is available now!

Delta 20" Band Saw features are among the newest and most advanced in the industry — many of them exclusive with Delta:

- To safeguard students, single-unit welded steel cabinet completely encloses all working parts. Doors provide quick access to wheels and motor.
- Adjustable "three-point mountings" between working parts and welded steel frame help to maintain exact alignment.
- Statically-balanced aluminum wheels are mounted in sealed-for-life ball bearings. Adjustable control on upper wheel helps to maintain proper blade tension for each particular job.
- Wheels are made of aluminum, to reduce flywheel action after motor is shut off.
- Convenient foot-brake is provided on lower wheel.
- Motor is mounted in base on pivot bracket which automatically provides correct belt-tension.
- Dust chute carries away dust and chips . . . can be attached to dust collector.

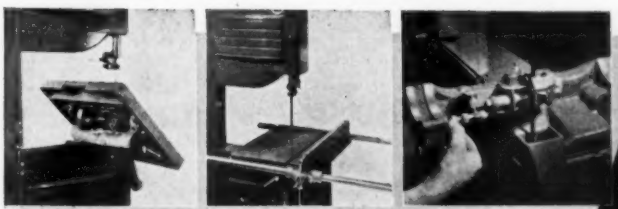
Your nearby Delta distributor can give you further reasons why it pays to specify Delta 20" Wood-cutting Band Saws on your equipment requisition. See him. Look for his name under "Tools" in the classified section of your telephone directory.

**DELTA MANUFACTURING DIVISION**
ROCKWELL MANUFACTURING COMPANY
MILWAUKEE 1, WISCONSIN
General Sales Office • 6 NORTH MICHIGAN AVENUE, CHICAGO 2, ILLINOIS

*Trade Mark Reg. U. S. Pat. Off.

• *Free Bulletin! Gives specifications and detailed description of Delta 20" Wood-cutting Band Saw. There's a copy ready for mailing to you. Request it, by coupon below.*

S-38



20" x 24" table is rigidly supported on two widely-spaced trunnions. Conveniently tilts 45° to right; 12° to left.

Heavily-ribbed table is slotted to accommodate miter gage. It is also adaptable to use of a rip fence, as shown.

Ball-bearing blade guides, above and below table, are fitted with micrometer adjustment.

TEAR OUT COUPON AND MAIL TODAY!

DELTA MANUFACTURING DIVISION
755D E. Vienna Ave., Milwaukee 1, Wis.

Send me free copy of Bulletin A-28-3 describing Delta 20" Wood-cutting Band Saw.

Name .....
Position .....
School .....
Address .....
City ..... ( ) State .....

*New!*

# INTERNATIONAL HARVESTER REFRIGERATORS

## *Kitchen Planned by Home Economists for* **NEW** *Convenience*

Here are the refrigerators which have been developed with the aid of Home Economists—women who know all the vital refrigeration requirements necessary for efficient operation and successful results!

International Harvester refrigerators are available in three spacious 8-cubic-foot models—Standard, De Luxe and Super De Luxe. And they all have the Harvester basic-eight—EIGHT important features that assure greater efficiency, convenience, dependability.

Included are the "Tight-Wad" hermetically sealed unit for low-cost operation, with 5-year warranty... permanent insulation of spun glass fibers... welded, all steel lifetime construction... genuine Dulux Enamel exterior, baked on over Bonderite.

The beautiful Super De Luxe model illustrated has a super-roomy interior—actually 16.3 square feet of shelf area to load with food—yet it's so streamlined, it takes no extra room in the kitchen. With all the basics that Home Economists regard as necessary, *plus* extra Harvester features! It's Super De Luxe in every way!

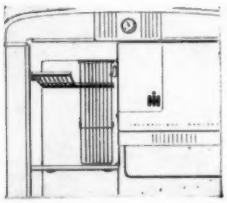
**INTERNATIONAL HARVESTER COMPANY**
**180 North Michigan Avenue, Chicago 1, Illinois**

The IH Home Economics Department, with its completely equipped kitchens and full staff of trained, experienced home economists, is ready to assist Home Economists everywhere on refrigeration subjects.

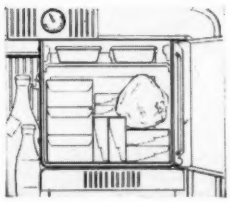
**REFRIGERATOR RECIPES**

Send for this book of refrigerator recipes and for complete information on all International Harvester refrigerators and freezers to Consumer Relations Dept., International Harvester Company, 180 North Michigan Avenue, Chicago 1, Illinois.

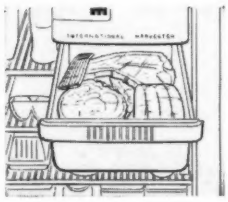
## Special IH Features of the Model 8H5, illustrated above



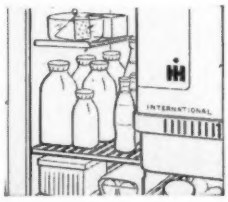
Two "Foldaway" shelves for butter, cheese, leftovers



Frozen Food "Stowaway" stores 35 lbs. of food



Roomy "Frigidrawer" stores 13½ lbs. meat, poultry, fish



Bottle shelf holds 12 one-quart square milk bottles

# INTERNATIONAL HARVESTER

*Refrigeration*

**THE INTERNATIONAL HARVESTER SYSTEM OF FOOD PRESERVATION**

LOOK FOR THE HALLMARK OF HARVESTER QUALITY